

**INFLUENCE OF UNDERSTAFFING OF TEACHERS ON TEACHING AND
LEARNING IN PUBLIC PRIMARY SCHOOLS IN MAKUENI SUB-COUNTY,
MAKUENI COUNTY, KENYA**

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**A Thesis Submitted to the Department of Post-graduate Studies
in Partial Fulfillment to the award of Master of Education Degree in Curriculum Studies
and Instruction**

THE CATHOLIC UNIVERSITY OF EAST AFRICA

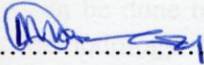
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DECLARATION

I declare that this thesis is my original work and has not been presented to any other Institution of learning for academic credit or any other purpose.

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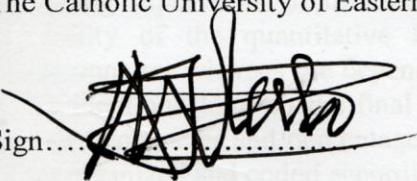
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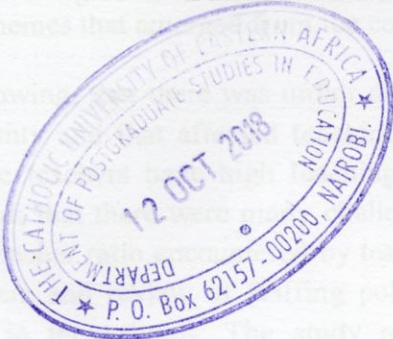
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ABSTRACT

There are not enough teachers in many of the public primary schools in Kenya. This means the schools are understaffed and this has influenced the process of teaching and learning in the schools. This study sought to find out how understaffing of teachers had influenced teaching and learning in public primary schools in Makueni Sub County, Makueni County, in Kenya. The study was guided by the following research questions: What is the distribution of the teaching staff in public primary schools in Makueni sub- County? How does teachers' work load influence teaching and learning in public primary schools in Makueni sub-county? What challenges are caused by understaffing to the teaching-learning process in Makueni sub-county? What can be done to improve staffing in the public primary schools of Makueni sub- County? The methodology employed in the study was both quantitative and qualitative research methodologies mainly through a cross-sectional survey design and narrative research design respectively. The population of the study involved teachers employed by the Teachers Service Commission who included head teachers and assistant teachers in public schools in Makueni Sub County. The study also involved an education officer and the staffing officer in the district. The Sampling methods in the study were simple random for the teachers and stratified sampling for the schools. There was purposive sampling for both the head teachers and the heads of curriculum (HOC) (or subject panel heads) in the schools. The researcher also used purposive sampling for both the education officer and the staffing officer. The sample size of the study was 20 head teachers, 20 HOCs, 151 teachers, one (1) staffing officer and one (1) education officer. Data were collected by use of interview guides and questionnaires. The validity of the instruments was ensured by involving stakeholders in the research department of the university including supervisors of this study who clarified on the authenticity of the instruments. The reliability of the quantitative instrument depended on test-retest technique of the pilot questionnaires whereas the dependability of the qualitative instruments was ensured by having a respondent checking on the final themes and concepts. The quantitative data were analyzed by use of frequencies and percentages with special regard to the SPSS version. The qualitative data were organized and coded according to the themes that emerged from the collected data.

The findings of this study included the following: that there was unfair distribution of teachers and high pupil-teacher ratio in the sub county and that affected teaching and learning in the schools; that in understaffed schools where teachers have high teaching workload, effective teaching and learning are negatively affected; that there were many challenges associated with curriculum implementation and high pupil-teacher ratio encountered by teachers in understaffed schools; and that fair distribution of teachers and review of staffing policies were some the effective measures of improving staffing in the schools. The study recommended regular recruitment and deployment of teachers within a specified period of time; ensuring fair distribution of teachers with regard to the staffing need; and provision of enough social services to the teachers in hardship areas.

DEDICATION

I dedicate this work to my wife, Margaret and children, Patience, Loise and Caleb.

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I acknowledge the almighty God for the strength of mind, will and sufficient health he gave me to carry out the study. I also acknowledge my wife, Margaret Wambui, for material and social support throughout the course of the study. She was always prayerful and eager to see a successful completion of the study. Similarly, I express sincere and heartfelt appreciation to my senior brothers, Mr. James Mangendi (late) and Stephen Mangendi for their social support and who had also set the background in my undergraduate degree. My junior brother, Mr. Samuel Mangendi and family cannot be left out. He was very instrumental in material support and general welfare.

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LIST OF ACRONYMS AND ABBREVIATIONS

ASAL	Arid and Semi-Arid Locations
ATL	Average Teaching Load
CA	Creative Arts
FPE	Free Primary Education
KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education
KNEC	Kenya National Examination Council
KNUT	Kenya National Union of Teachers
LS	Life Skills
MDGs	Millennium Development Goals
MOE	Ministry Of Education
MOEST	Ministry of Education Science and Technology
PE	Physical Education
PPI	Pastoral Programme Instruction
PTA	Parents Teachers Association
PTR	Pupil-Teacher Ratio
TSC	Teachers Service Commission
UIS	UNESCO Institute of Statistics
UNESCO	United Nations Environmental Science and Cultural Organization
UPE	Universal Primary Education

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Teaching and learning has undergone certain negative influences due to the fact that understaffing of teachers has been experienced in public primary schools in Kenya. A number of researchers have clearly shown that some changes and developments brought on board by understaffing have already thwarted the effectiveness of teaching and learning. Akunga (2012), for example, observes heavy teaching workload common in schools brought about by understaffing. He carried out his study in Masaba South District, Kisii County, Kenya. He also observed that due to the increase in workload coupled with increased administrative work, many head teachers do not hold staff meetings to discuss academic standards. This affects the learners negatively because their academic performance is not evaluated by the staff to point out their strengths and weaknesses. The increase in workload for the few available teachers, consequently, leads to the failure to complete the given syllabus and in case it is finished, it would be a crash work program (shallow teaching). It also dictates the teachers to concentrate mainly on the examinable subjects of the syllabus hence ignoring the non-examinable subjects which also form an important part of learning.

Simiyu (2012) carried out his study in Siboti Zone of Bumula District. He claimed that understaffing is a major challenge to good results in teaching and learning. Duflo, Dupas and Kremer (2015), observe that, due to teacher shortage, Parents Teachers Association (PTA) teachers have been hired by school based committees and contract teachers by government to help in teaching and learning. Zaniwski and Garza (2014), on the other hand, have pointed out

that there is a growing number of learners versus the reducing number of teachers. They claim that understaffing is followed by overcrowded classes especially where enrolment increases and classes cannot be divided due to the limited number of teachers available in a given school. Consequently, learning is confronted with difficulties.

Moreover, Kenya National Union of Teachers (2013) has been in the forefront looking at the influences that have befallen teaching and learning as a result of understaffing. It claims that the few teachers in rural and marginalized areas are overworked and classrooms overcrowded. As a result, this becomes a challenge in attaining effective teaching and learning. This study therefore, sought to find out the influences that understaffing has led to and are thus a threat to effective teaching and learning in Makueni sub-county, Makueni County, Kenya. Being one of the hardship areas of the country, with many schools located in Arid and Semi-Arid Locations (ASAL), where not many teachers would like working, Makueni sub-county requires such a scientific study to look into the influence of the teaching staff gap on the teaching-learning process (Nzoka, 2011).

1.2 The Trend of Understaffing of Teachers in Kenya

Lack of enough teachers in primary schools that are run by the government has become a rampant problem which influences teaching and learning. According to Wamukuru (2011), Kenyan schools have a high demand for teachers. This shows that those schools are understaffed. That is, they are not provided with the adequate number of teachers per school, mainly by government's failure to put an effort in meeting those demands and by poor distribution of the already available teachers. The problem is aggravated by natural attrition (e.g. through death and retirement) of the already serving teachers.

Statistically, the global picture of teaching staff in schools shows that there is a predicament of understaffing which influences teaching and learning negatively in schools. Consequently, this becomes a problem in achieving Universal Primary Education (UPE) as one among the Sustainable Development Goals (UNESCO 2015). World organizations and World Bank give a picture of acute shortage of primary school teachers. For instance, UNESCO Institute of Statistics (2011), gave an annual projection of the required number of primary teachers needed globally in 2009 to achieve UPE by 2015. This report revealed that, 54% of developing countries had to recruit more teachers in the schools so that the number could match the big numbers of the pupils.

In Kenya the problem of understaffing started a few years after independence. For instance in 1973, a presidential decree made education free for the first four years of primary education throughout the country. The immediate result was increase in pupils' enrolments, thus initiating demand for more teachers (KENPRO, 2010). In 1997 the government stopped employment of teachers for lack of enough funds to pay the workforce. What has been happening over the years since that time is mere recruiting of teachers to replace those who left the profession through natural attrition or resignation (Anwoga, 2012). The replacement exercise, however, has never filled the gap with consideration to other factors causing teachers' shortage. According to annual report by Teachers Service Commission (2015) the shortage of teachers was placed at 85000 nationally. This is obviously because of increasing enrolment of pupils in both primary and secondary schools and registration of new schools.

In the year 2003, the Minister of Education Science and Technology launched Free Primary Education (FPE). The government catered for much of the cost for teaching and learning

materials. This implementation of FPE led to high enrolment of pupils in schools and the pupil-teacher ratio as well had to rise up. According to Kikechi, Kisebe, Gitahi and Sindabi (2012), it has also led to inadequate learning facilities and increased work load among teachers due to the shortage of teaching staff. Otike and Kiruki (2011) concur with this that the greatest challenge of the FPE and its objectives includes fighting illiteracy and achieving UPE is under-staffing.

In the year 2012, Kenya Institute for Public Policy Research and Analysis (KIPPRA, 2012), in a report from the Kenya Economic Report shows that understaffing in primary schools has reached alarming levels. The reason is that, required pupil-teacher ratio (50:1, to the maximum) and the streams per class and teacher ratio are not maintained. The requirement is 1 teacher per class for all the streams, for all classes 1 to 8. In the year 2007, the data by KIPPRA showed proportional or uneven staffing of teachers with some schools having a maximum PTR of 56:1 (KIPPRA, 2012). According to the Kenya National Bureau of Statistics (2012), facts and figures on the trend of pupil-teacher ratios over the years were given as follows: 1:50.4 in the year 2008; 1:51.6 in 2009; 1:54.4 in 2010; and 1:56.6 in 2011 (KNBS, 2012). These figures clearly indicates that the number of pupils continue to increase while the number of teachers either remains constant or decreases because the government does not employ or replace teachers effectively, among other factors which cause understaffing.

The above trend of events affecting staffing of Kenyan schools is a clear indication that teaching and learning must have been affected or influenced in some way for lack of enough teachers in schools. Teachers are very instrumental in education (Merfat, 2016). The researcher in this study was therefore obliged to find out how this problem has influenced the teaching-learning process in public primary schools, specifically in Makueni sub-county in Kenya.

1.3 Statement of the Problem

Understaffing of teachers influences teaching and learning in schools. This study sought to find out how understaffing influences learning and teaching in government owned primary schools in Makueni Sub County in Kenya. Over the years, there has been great demand for more teachers in schools due to the natural attrition of the teachers including death and retirement and also due to the increase in the enrolment of pupils (Kikechi et al, 2012). Since 1997, when the government declared stoppage of employment of teachers on the basis of lack of finances, most schools have remained understaffed to the present date (Anwoga, 2012). The crux of the problem has been left to schools and to parents in need of professionally trained teachers to serve their children.

It raises a question of whether the school curriculum is effectively implemented. It is important to note that in the process of implementing the curriculum the teacher is a key person. The implementation process here involves among other tasks, all the dimensions of the curriculum: informal, formal and non-formal. This is the task of the teacher whose work is beyond the four walls of the classroom. Merfat (2016) observes that the most important person in the curriculum implementation process is the teacher because he has the knowledge, experiences and competencies central to any curriculum development effort. All this work is geared towards transforming the learner in all the possible faculties: skills, knowledge and attitudes. Thus, there is a teaching staff gap in our schools which needs investigate on what happens in the event of understaffing.

In a partial response to lack of enough teachers in schools, a numerous studies were conducted to find out how this has affected and learning and teaching in schools. These studies

are basically concerned with the influence felt in academic performance and quality education. However, there is a knowledge gap as seen in this study. For example, in his research study, Kaloki (2012) observes that understaffing encourages high pupil-teacher ratio (PTR) (very many pupils per one teacher) which in turn leads to large class sizes and consequently low academic achievement. However, more research needs to be done to find out limited number of teachers compared to the rising number of pupils has affected teaching and learning activities including the teachers' class instruction work and class control. The lapse in the effectiveness of teaching and learning is definitely caused by the decreased number of teachers as compared to the elevation of pupils' enrolment taking place annually. Due to this fact, the researcher in the current study was obliged to find out how the teaching-learning process was influenced by understaffed state of our public primary schools. This means, much as we may be interested in the performance of the learner in national examinations, it is not the only focus here. The holistic approach to the learner is basic in the study.

Another study by Munguti (2009) clearly shows that understaffing increases the teachers' work load. That is, the teaching load (number of lesson periods per week) and other allied duties which facilitate learning increase since few teachers are at work. Consequently, this leads to overutilization of the teacher and failure to complete the syllabus. More research is, however, needed to establish whether the heavy work load thwarts the teachers' efforts in activities like regular class attendance of all lesson periods for all classes, lesson planning and giving and marking of all assignments.

Researchers like Maithya and Akalas (2014) study in Masai Mara District found out that understaffing influences academic performance and quality education. More research is,

however, needed to establish whether all aspects of curriculum are implemented to ensure quality. Besides, the responses of the teachers, who implement the curriculum and are stakeholders in education on the ground, have not been gathered by any study to establish whether understaffing is a challenge to quality education for effectiveness in teaching and learning.

While these researchers have dealt partially with the influence felt in academic performance and quality education, this study was geared to finding out the influence brought on board by the increasing number of pupils versus the reducing number of teachers in teaching and learning; the influence felt in the teachers' class instruction work and management; the influence felt in the teachers' work load; and the challenges that come along in teaching and learning in the face of understaffing. The study also came up with the measures that can be put in place to improve staffing of schools for effectiveness in teaching and learning.

1.4 Research Questions

The study was guided by the following research questions:

- i. What is the distribution of the teaching staff in public primary schools in Makueni sub- County?
- ii. How does teachers' workload influence teaching and learning in public primary schools in Makueni sub-county?
- iii. What challenges are caused by understaffing to the teaching-learning process in Makueni sub-county?
- iv. What can be done to improve staffing in the public primary schools of Makueni sub-County?

1.5 Significance of the Study

This research study sought to highlight and an awareness and the voice of the plight of learners, the already serving teachers and the parents in any given school community. To the learners, the influence of understaffing is an explanation of their poor performance and denial of necessary skills and hence a message to educational authorities in order to staff schools adequately. To the teachers, the study is enough message to open up the plight of their hectic work due to the shortage of staff and give an account of their ineffectiveness e.g. uncompleted syllabus. To the parents, the study aimed at expressing their grievances on the fate of their children and on the extra burden they had of paying PTA teachers to assist in teaching and learning.

The study also aimed at providing the way forward in solving the problem of understaffing. This is significant to the following stakeholders in education: The Teachers Service Commission (TSC), Ministry of Education (MOE), and KNUT. To the TSC as the teachers' employer, it is enough message that its mission of "quality service for effective teaching and learning" is flouted and needs action plan to provide adequate staffing. To MOE officers and policy makers, it is a source of reference (a research work) on the challenges of understaffing facing quality education and achievement of the national goals of education. This would sensitize the government on the need for enough teachers for the implementation of the curriculum for primary schools.

To the KNUT, the study also provides a source of reference in fighting against the plight of the serving teachers. The union would have obtained the voice of the teacher on the ground where the bulk of the work with few hands to do is heaped.

1.6 Scope and Delimitations

Although under-staffing is a problem in both secondary and primary schools, the study was delimited to public primary schools in Makueni County. The researcher chose to carry out the study in public primary schools because that is where basic education begins and whose background opens the avenues to higher levels of learning. It was also with regard to the first objective of primary education in Kenya. That is: acquiring communication skills, numeracy, literacy and creativity (KIE, 2012). The study focused on the state of understaffing of teachers particularly in Makueni Sub County where most of the educational zones are classified as hardship areas (Nzoka 2011). This poses a challenge to retain teachers in such areas.

A considerable number of zones in Makueni sub-county within Makueni County were chosen and from each zone a suitable number of schools were chosen. In order to give meaning to this study schools were categorized into: ASAL (Arid and Semi-Arid Locations) schools, rural schools and town schools. Private schools in the sub county were excluded from this study, whether in town, rural or in arid and semi-arid locations.

Participants included in the study were as follows: TSC teachers, head teachers, heads of curriculum (HOC) in the primary schools, the staffing officer and the DEO in the sub county. In as far as the total number of the teachers in a given school was concerned; the state of understaffing was determined by the number of TSC teachers excluding the PTA teachers. It should be noted that not all schools were understaffed. In actual fact, a number of urban schools were overstaffed. Thus the researcher's task was to highlight the differences in the staffing of these schools. The teacher's amount of work which was determined by teachers' numbers in a school covered both examinable and non-examinable subjects. It was a regulation from the MOE

that even non-examinable subjects are part of the syllabus and must be slotted in the block timetable.

The study comprised of four research questions. These research questions focused on: the influence of distribution of teachers on learning and teaching in the schools; influence of high workload on pedagogy; the challenges of understaffing on teaching and learning; and the measures that can be taken to improve the situation.

1.7 Theoretical Framework

This research used the staffing theory which was derived from the ideas of Barker and Gump (1964). The theory holds that in a big school the pupils do not participate satisfactorily in activities as is the case of small schools which offer more opportunities for participation. Barker and Gump (1964), were interested in the relationship between school size and the number of extra curriculum activities done and reported by a graduating class. They did this by examining the books that had recorded the activities that the graduating class had participated in the four years of their high school education. They found out that as school size increased, the number of activities that the students participated in went down (Barker and Gump, 1964). This implies that in a big school there are many students making it difficult to apply individual attention approach when attending to the students. This situation arises because the students-teachers ration is skewed towards the students' side. In this case too much work or activities against an individual (for example in a case of an understaffed school) may result in the individual not accomplishing much with regard to the requirements (Forsyth, 2010).

1.7.1 Strengths of the Theory

The Staffing Theory has been examined by educationists and it has been considered to be a strong theory because it helps to balance between the various categories involved such as the number of teachers and the students that the environment provides for (Wicker, 1968). This is based on the real situation in schools where the number of teachers Vis a Vis that of the students determines the teaching and learning process. It has been argued that teaching is affected by a huge number of students because when the number of students outweighs that of the teachers, teachers are not able to give students individual attention and also marking of students' assignment becomes difficult (Munguti, 2009). The teacher is also not able to prepare for the lessons to teach because more time will be spent by the teacher marking assignment than preparing to teach in class.

1.7.2 The Weaknesses of the Theory

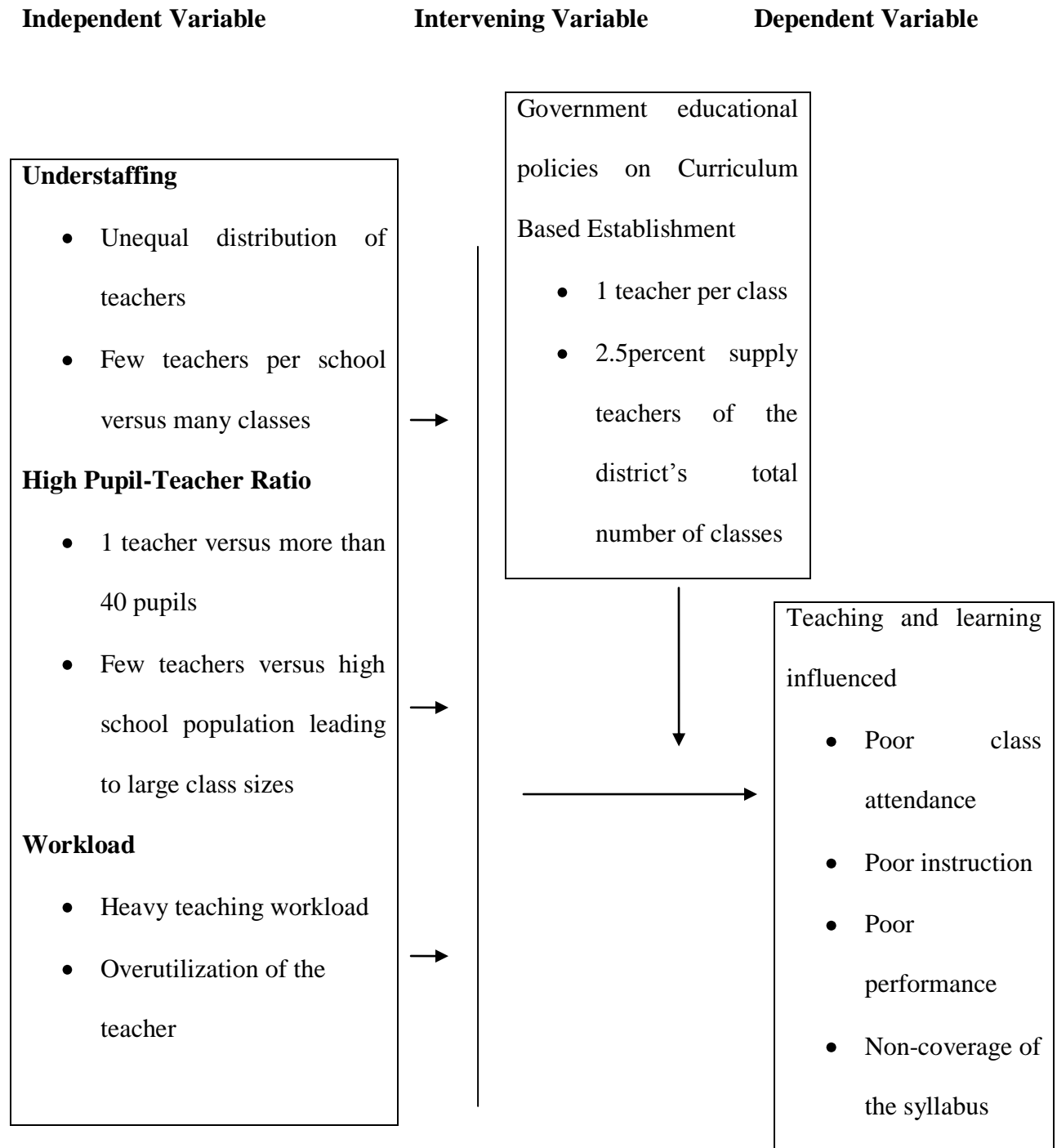
The theory has got its inherent weaknesses. The theory does not put into consideration that teachers can teach by use of media where one teacher can reach to more students. For instance, the use of projectors, televisions or radio (Wamalwa, 2014). Here the teachers can get more students and the students' needs will be addressed more effectively. The theory also assumes that learning only takes place when a teacher is teaching. This assertion is not necessarily correct because students can learn on their own through discovery methods where minimal supervision by the teacher is needed. However, this study takes care of that by showing how instrumental the teacher is to the learner through interaction for effective teaching and learning.

1.7.3 Application and Justification of the Theory

The theory was relevant to this study in various ways as follows: First, poor teacher distribution is one of the causes of understaffing and overstaffing in schools. This will cause under-utilized teachers (teachers with little work) in the case of overstaffing and other teachers over-utilized (overworked yet accomplishing little) in the case of understaffing. In this regard, the theory can be applied in ensuring adequate staffing in our schools. Secondly, the theory puts it that as school size increases, the student participation in activities goes down. This is possible in understaffed schools because there are no enough teachers to engage the many pupils effectively in learning activities. Moreover, the few teachers available in schools against large class sizes dictates the teachers to limit the number of assignments and other learning activities to the pupils since it takes a lot of time to mark and supervise such work.

1.8 Conceptual Framework

Orodho (2009) describes conceptual framework a model of presentation whereby the researcher presents the similarity of the variables in a study. The relationship may be shown graphically or diagrammatically through independent and dependent variables. Figure 1.1 illustrates this relationship.



Relationships between Variables

Source: Author (2016)

Fig. 1.1 Conceptual Framework on the Influence of Understaffing on Teaching and Learning

The conceptual framework shows that the independent variables are understaffing, pupil-teacher ratio and teaching workload while the dependent variable is effective teaching and learning.

Decline in teaching and learning would occur in schools where the number of teachers is less than the required. Thus, in schools, effective pedagogy in schools is influenced by understaffing, pupil-teacher ratio and the workload of teachers.

The government's educational policies on staffing are an intervening variable. In a case where schools are understaffed, certain changes are inevitable. For example the teaching workload must increase since few hands are at work. The available few teachers are forced to select or give priority to examinable subjects and neglect the non-examinable despite their importance. Again where teachers are few and with large class sizes caused by great enrolments, there are challenges for the teachers in class instruction because the teacher is handling many pupils. Consequently, there is no effectiveness in quality teaching and administrative work.

Among the negative influences felt in teaching work include poor syllabus coverage, poor instruction in class, less individual attention to the needs of the pupils and paying PTA teachers to assist in teaching. On the other hand, learning for the pupils will lack effectiveness. Pupils miss basic skills in the neglected non-examinable subjects and their individual needs are not effectively addressed. In addition, there may be indiscipline on the part of pupils where teachers have less individual attention to the needs of the pupils and this becomes a challenge to the administration

When a school is understaffed, a number of lesson periods per day for different classes are missed because one teacher cannot teach two different classes in two different classrooms at a go. This means the pupils remain behind in the syllabus and even if the teachers do their best to

cover it, they will teach content hurriedly and shallowly. This influences the quality pedagogy experienced.

In addition to this, when the number of lessons periods per week per teacher increase more than the recommended, the teacher is overworked and as a result he cannot deliver the lessons effectively. This pressure of workload influences him to combine some classes, assign others instead of teaching and delays the marking of assignments. In some cases the instructor may not even give assignments reason being heavy teaching workload.

Moreover, the number of pupils compared to the number of teachers is a factor to consider. If the number of pupils in a class is above 40 as determined by the number of pupils enrolled in the school, instruction in class is affected and class control becomes difficult. In relation to this, the teacher seldom meets all the individual needs of the pupils as required. Consequently, this influences learning and teaching..

1.9 Operational Definition of Terms

ASAL Schools- schools in remote areas; locations arid as well as semi-arid; not easily accessible or with poor means of transport

Attrition- The state of fading away or disappearing of teachers through natural causes hence the understaffed state of public schools.

Influence- The power or potential (of understaffing of teachers) to bring up some changes in pedagogy

Over-staffing- It is providing more members of teaching staff than it is necessary. An overstaffed school has a larger number of teachers than the required ones with regard to the number of classes and the number of pupils.

Public Primary Schools- refers to institutions for basic education administered by the government of Kenya and in which educational policies and regulations are implemented by government employees (teachers).

Retention-is the State of being retained. This refers to the ability of TSC to retain teachers in the respective areas of deployment and staffing despite the challenges involved.

Rural Schools- schools away from towns but which are accessible by good means of transport.

Teaching and Learning- refers to both the activities of the teacher and the learner in promoting knowledge and understanding in the process of implementing the curriculum.

Teachers- curriculum implementers and in particular TSC teaching staff in public primary schools

Town Schools- schools in towns or near towns

Under-staffing- Providing insufficient number of teachers in public primary schools. An understaffed school does not have the required number of teachers with regard to the number of classes and the number of pupils.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter sought to review related research studies on the influence of understaffing on teaching and learning. The empirical studies reviewed here, address the four research questions mentioned as follows: influence of teacher distribution on teaching and learning; influence of teachers' workload on teaching and learning; challenges of understaffing to teaching and learning; and the measures that can be taken to improve staffing in public primary schools. The chapter concludes with a summary of the reviewed studies and the gaps that this study intended to fill. Together with this, it is necessary at this point to highlight the government's educational policies that exist on staffing of primary schools through the TSC before embark On the literature reviewed. This would enable us to evaluate the nature and magnitude of the said gap of teachers.

2.2 The Government's Educational Policies on Staffing of Primary Schools

According to TSC (2012), teacher management functions are done by the TSC. It is the responsibility of the commission to manage the quality of education, the demand and supply of teachers and advise the Ministry of Education Science and Technology (MOEST) accordingly. The TSC staffing policies provide that there should be one teacher per class plus 2.5 percent of the total number of classes in a district. Under the new constitution of 2010, the TSC is mandated to register and deploy trained teachers. It assigns duties to employed teachers in any institution or public school; promotes and transfers teachers; and establishes and maintains a teachers Service adequate to the tertiary institutions in Kenya and the needs of public schools (TSC Act 2012).

The TSC, in its mandate and policies, is however, confronted with challenges in the staffing of schools. For instance, the distribution of teachers in all public schools in the 47 counties of Kenya is not fair enough to the demands and needs of schools. According to MOEST (2014), The schools recorded 317,477 number of teachers. If these, 76.2% were in public schools that sums up to 241,917 teachers in public schools. The total number of classrooms in primary schools that are public was recorded in 2014 was 230,377. While the total figure of teachers was enough for the number of classes, the findings of the MOEST (2014), however, show that the distribution of teachers across counties is unfair with regard to the number of classes in some of the counties.

A similar challenge to the TSC staffing policies arises when it comes to the ratio of teacher to pupils because if the pupils are large in numbers in a given school, the more the demands from the teaching staff. In the year 2014 it was recorded at 41.5 for public schools. This is and was fair compared to the international standards (40). However, according to MOEST (2014) there exists regional disparities in distribution of teachers with 27 counties lying below the national average while 20 lie above the national average. For instance the pupil-teacher ratio at Bugoma county was 57.7; Busia 51.2; Garissa 57.5; Kilifi 49.5; Mandela 79.4; Narok 55.7; and Turkana 101.3, (MOEST, 2014). Clearly, this shows a big shortfall in the number of teaching staff and in their distribution in the counties.

In addition to the above, it is eminent to say that, that schools with large population constitute to large class sizes. In such a case then it is possible to have a class of as many as 60 pupils in large population schools and another with as few as 10 pupils in low population schools. For instance, while it is a policy to have one teacher per class, some public schools in

ASAL areas may have a population of less than 50 pupils distributed among 8 classes. Such a school would by policy deserve to have not less than 8 teachers the same way a school of not less than 300 pupils distributed among 8 classes would deserve despite the demands of the densely populated schools. According to Orodho, Waweru and Nthinguri (2013) the shortage of teachers and the big number of pupils in class could attribute to the poor quality of education by straining teacher in teaching and learning processes.

This being the situation and trend over the years, it shows the Pupil-Teacher Ratio (PTR) is not consistent or maintained and the staffing policy is obliged to improve with regard to the numbers and the localities. The staffing policy also assumes that all teachers including head teachers will undertake full teaching load not considering the managerial tasks and administrative work which takes most of the head teachers' and deputy head teachers' time for class work. The TSC should therefore repackage itself on staffing towards effective realization of its motto: Quality service for effective teaching - in our schools.

2.3 Review of Empirical Studies According to the Research Questions

2.3.1 Influence of Teacher Distribution on Teaching and Learning

Evidence from MOEST (2014), shows that the dissemination of teachers across the various areas in Kenya is characterized of disparities with some schools in the counties having more than they need or even bigger than what the staffing policies require whereas others have less as per the policies and needs in those schools. However, even if teachers were to be transferred from the overstaffed schools to offset the situation in the understaffed schools, the problem of understaffing would still remain because of high enrolments which translate to high pupil-teacher ratio (KNBS, 2012).

High pupil-teacher ratio is a characteristic of understaffing. Teaching and learning may be influenced negatively in schools with large numbers of pupils against few teachers. Studies indicated that pupils' performance in academics is affected negatively in schools where there are not enough teachers and the available teachers are handling large class sizes. For instance, Kaloki (2012) carried out a study on pupil-teacher ratio (PTR) and its impact on pupils' performance in Machakos County. The study targeted the 78 public primary schools in the Division, in which a total of 24 schools were sampled for the study. Descriptive survey design was used as the research design for the study. Questionnaires were used in collecting data for the study. The questionnaires were administered to all the Head teachers and the teachers of the sampled schools, the County Staffing Officer, the Examination Officer and the Quality Assurance and Standards Officer.

The findings of the study revealed that PTR significantly influences performance of pupils in national examinations. The study recommended to all Education sector stakeholders to pay adequate attention to PTR since it affects performance of pupils in Primary Schools. It recommended to the government to employ more teachers to lower PTR and ease teachers' work. Kaloki's study, however, is only interested in the impact felt in national examinations. It does not consider the impact high PTR poses to the teachers' instruction work in class. For example the challenge of congestion in classes; giving and marking assignments and lack of individual attention to slow learners. This was a gap that this study would fill.

There are other studies considered here on the aspect of pupil-teacher ratio in schools. They include Kanyiri (2009), Munguti (2009) and Kikechi et al (2012). They are concerned with the effect of high PTR (many pupils versus few teachers) to quality education in our schools.

Among the observations they make include the facts that, in a case of high PTR, there is limited individual attention to pupils, poor quality education, difficulties in management and lack of effective teaching.

For instance, Kanyiri's (2009) study in Kajiado, Kenya, investigated how the number of pupils in class affected teaching and learning. Survey design was used to collect data from a wide scope and whereby the data collected assisted in generalization. Class teachers were the majority of those who participated in the study (93 percent). Only 12 (7 percent) were not. Those who indicated that they were class teachers were asked to give the number of pupils in their respective classes to determine the PTR and the results were presented in a histogram, the number of pupils corresponding to a certain percentage. Majority, 85 (49.7 percent) of teachers in the study, pointed out that pupils were between 21-40 pupils. This could show that the number of pupils per class was not very high and was within the recommended teacher-pupil ratio. However, in some cases the pupils in number was above 60. This could be cases of some schools where the enrolment was high especially after the FPE was introduced and also implementation of feeding programme.

Kanyiri observed that some teachers could hold classes of up to 70 pupils, and from the teachers' responses, this meant less individual attention to pupils. She adds that this is accompanied by lack of motivation for teachers who are overworked and underpaid. This study further investigated how high PTR as a characteristic of understaffing influences teaching and learning in schools. Kikechi et al (2012) have similar observation. From their study they highlight that a major reason for the poor performance and deteriorating quality of education which characterize primary education in Africa is high or very low pupil-teacher ratios. Many

policy oriented interventions and research studies consider a 40:1 ratio reasonable in developing countries.

The gap that can be deduced in Kanyiri's study is on what happens to pedagogy in a case in which the number of teachers in a school exceeds the recommended one for a given number of pupils (that is few teachers versus very many pupils). His study is rather limited to the attention given to the pupils and seldom considers the impact of the high PTR to the teachers' activities. It was necessary to investigate on what the teacher does not do or fails to do in the face of high PTR as a characteristic of understaffing. This gap was addressed by this study by enquiring from the teachers the challenges they faced when the number of pupils they handled was very large against few teachers either in teaching or extracurricular activities. World Bank Group (2009) financed primary education projects are usually designed with an average pupil-teacher ratio of approximately 41:1. The authors also argue that where a teacher has to handle a very large number of students there could be difficulties in classroom management and effective teaching.

Large class sizes are common in schools where the pupils are very many and the teachers are quite few because they cannot divide a certain class into two or three streams and the classes fail to be attended as required. Consequently the large class remains an issue to the teacher on matters of class control and class instruction. On class sizes, Bascia (2010) was called by Canadian Education Ministry to conduct a field research and analyze statistical data on how it influences learning. His target population involved 8 school districts, 24 schools and 84 classrooms. Classroom observations were undertaken at each primary grade level. All teachers were surveyed in each school. Parent surveys included representation from every school district in Ontario. According to his findings, nearly more than half of the primary teachers pointed out

that the quality of their engagement with students had improved due to the smaller class size and two-thirds said their students were more engaged in learning than before class size reduction. Many parents of children enrolled in smaller classes reported that their children were learning more were more comfortable at school.

The gap that unfolds in Bascia's study is that he does not come up with the challenges that few teachers in a school face in handling large class sizes. This gap was addressed by this study by looking at the challenges the teacher faces in teaching a large class size as a characteristic of understaffing and the additional duties (double roles) besides teaching that come along in handling the excessive needs of the pupils. It also enquired whether it is the number of teachers who have shared work or the class size that determines effective teaching and learning.

2.3.2 Influence of Teacher's Workload on Teaching and Learning

In schools where teachers are overwhelmed by heavy workload due to understaffing, the teaching-learning process is affected. Bukhala (2009) handled the question of teaching load per week in technical institutions in the then Western Province of Kenya to verify whether there is a shortage in staffing. He analyzed his findings in a three column table notably: load per week, frequency and percentage. From his findings, no teacher had a teaching load less than 10 hours per week. 21.7 of the teachers in percent had 10 to less than 15 hours; 47.8 percent had 15 to less than 20 hours; and 30.4 of the teachers in percent had more than 20 hours of teaching per week. The next move in Bukhala's data was to ask the teachers to rate their workload and the data collected was as follows: 34.8 percent of the teachers felt that their workload was heavy while 62.2 percent of them felt that their workload per week was moderate. Not even one of the teachers experienced light workload per week, thus shortage in staff meant increase in work load

for the available teachers. Consequently, the increase in workload influences effectiveness in teaching and learning.

The gap that can be deduced from Bukhala's study is that he did not come up with the challenges that are caused by increased teaching load for teachers due to understaffing. This gap was addressed by this study by enquiring about whether the syllabus was completed in the schools in the face of understaffing and heavy workload; whether teachers were able to attend all classes regularly; and whether they could prepare each of their professional records e.g. schemes of work and lesson plans,

Another study by Wakoli (2016) was done to examine the effects of work load on teachers' performance. She carried out the study in ten primary schools in Kanduyi Division of Bugoma District. She had a sample of 24 head teachers, deputy head teachers and senior teachers there were 76 teachers and three education officers. Purposive and stratified sampling technique was applied. Descriptive research method was used and descriptive statistics was applied to analyse and interpret the data. From her study findings, it was discovered that the primary school teachers indeed are overloaded as majority of them expressed. They shared many subjects among few teachers per school with some of them teaching four subjects since there is no specialization. The teachers also agreed that they teach overcrowded classes and the subsequent excessive marking of pupils' work. Wakoli observes that the effect of this overloaded teacher is poor performance on the part of the learners because the teacher is over utilized; does not have enough time for adequate preparation to teach the pupils and individual pupil's problems are not catered for.

In addition to the above, Munguti's (2009) study shows that where schools are understaffed, teachers are over-utilized because of heavy workload. On the contrary, where schools are overstaffed, teachers are under-utilized since the workload is light. To illustrate this, he gave a distribution of teachers' number of periods taught per week. He was interested in teacher utilization in secondary school education. He used frequencies and percentages to show the distribution of a sample of 131 teachers from various schools. He established that teachers with 28 and above periods per week had the highest percentage (32.1). The teachers with 12 and below periods per week were the least (2.3 percent). The majority had 19-24 and above periods. That is 87 percent, while the rest had 16-18 and below; that is only 13 percent of the teachers. The distribution indicated that some teachers were under-utilized when others were over-utilized. He recommends that there should not be shortage of teachers when others are under-utilized.

Both Wakoli's (2016) and Munguti's (2009) studies suggestively shows that great variations in staffing of schools lead to great variations in teacher utilization with regard to the teaching workload. The two studies, however, do not show how the over utilization of the teacher (in the case of understaffing) affects both teaching and learning activities. To address this gap, this study enquired from the teachers what happened to their instruction work as part of teaching and learning when they were overwhelmed by heavy workload. For example, whether they give and mark assignments frequently for all classes without fail and whether they teach non-examinable subjects as required by the syllabus.

Another point worth noting is that Kanyiri (2009), Munguti (2009) and Kikechi et al (2012) viewed heavy work load as taxing and demoralizing hence lowering the teachers' morale towards the quality instruction work. Teachers had to develop 8 lessons in a day, meaning they

had no free lesson to check the pupils' books during school working time. They also agreed that they could not give adequate work to the learners because they had no time to check the pupils work before the subsequent lesson.

2.3.3 Challenges of Understaffing to the Teaching-Learning Process

Teaching and learning activities are confronted by certain challenges caused by shortage of teachers in a given school. This depends largely on what constitutes the curriculum and how the work load is shared among the available teachers. The state of understaffed schools in Kenya subjects teaching and learning to many challenges including poor academic performance; ineffectiveness in curriculum implementation; encouraging selective teaching of subjects; poor quality education; less attention to individual pupil needs; poor class instruction; hiring of PTA teachers; and increase in administrative work.

On academic performance, Munguti (2009) carried out a study to determine whether there was an outstanding comparison of teachers' staffing level in schools and the mean KCSE scores attained by students. To do so he categorized groups of schools were as follows: - adequately staffed, overstaffed and understaffed. The standard deviations, mean scores as well as the standard errors of all groups of schools under study were calculated. He concluded that there was no sufficient reason to believe that there was an outstanding comparison between secondary school teachers' staffing level and their students' outcome in KCSE. The teachers' staffing level did not influence students' performance.

In this regard, one limitation of Munguti's (2009) study is that he is concerned with the end of a four year course examination (KCSE) which is once and for all test. On the contrary, the results of the learners' Continuous Assessment Tests (CATS) and assignments over the years can

give a more cumulative and consolidated picture of the learners' performance levels. Again his study uses quantitative analysis of the data obtained. The researcher in this study used qualitative method to pursue the teachers responses based on learners' progressive records.

Another study on the availability and influence of teaching staff on academic performance is done by Reche, Bundi, Riungu and Mbugua (2012). The study aimed at finding out factors that attributed to poor academic performance in KCSE examination in public owned primary schools in Mwimbi Division, Maara District in Kenya. The design used was descriptive survey design and the sample included 6 head teachers, 51 teachers and 146 standard eight pupils who took part in the study. It was from the findings of the study that it was indicated that pupils cannot do well in terms of performance in their primary national examination due to lack of enough staff. That is, understaffing in the schools is a challenge to quality academic performance for the learners. This means that schools with enough teachers would probably perform better than the understaffed schools.

In his contribution to the necessity of enough teachers in schools, Gurro (2010) in his study that took place in Marsabit Central District to find out if there was a comparison between the number of teaching staff and pupils' academic performance in their final examinations. His data included students' and teachers' responses to factors causing poor academic performance. He used a four point likert scale: SA (strongly agree), A (agree), D (disagree) and SD (strongly disagree). The study established that teachers strongly agreed that poor performance in academic is caused by teacher shortage in the school. Thus his study shows that the fact of teacher shortage in schools was a factor responsible for poor academic performance. This study further

complemented Gurro's study by picking responses from both understaffed and overstaffed schools on performance and draw conclusions on the influence of understaffing.

It should be noted from the above studies that understaffing holds some water in influencing pedagogy in our schools in terms of academic performance. Both Reche et al (2012) and Gurro (2010) agree that understaffing influences the pupil's performance negatively. Munguti, however, presents a contrasting picture that there is no sufficient reason to believe that the number of teachers influences pupils' performance. It is from this contrast that this study found out further influences of understaffing on the effectiveness of teaching and learning.

Curriculum implementation in schools is also a challenge in a case where schools are understaffed. Orodho, Waweru, Ndichu and Nthinguri (2013) carried a study that focused on techniques used in coping with the inadequacies of preventing effective implementation of curriculum primary education in Kenya. It was based on constructivist theory and a sample of 205 of both secondary and primary school teachers were selected. The study employed mixed method in collecting and analyzing data. The key challenges mentioned by majority of teachers especially in Kenyan geographical regions with shortages of teachers, included: inadequate teaching methods (25.37%) and high teaching load (23.41%).

The study found out that, areas with shortages of teachers lagged behind in curriculum implementation leading to poor academic performance. Teachers in such areas lacked motivation leading to little attention given to the learner. That is, there was hardly room for modern usage of instructional techniques which require individualized teaching. There was, however, the research gap on the influence of individualized teaching on academic achievement with consideration to the teacher numbers in a given school.

Selective teaching of subjects is also a threat to effective pedagogy. Selective teaching is whereby emphasis in teaching is placed on examinable subjects while the non-examinable are given little attention. With the pressure to complete the workload for examinable subjects, much of or all the work for non-examinable subjects is left undone especially in understaffed schools. This becomes a challenge or a drawback to effective teaching and learning. The available teachers spend much of the allocated time for Physical Education (PE), Creative Arts (CA), Life Skills (LS) and Pastoral Program Instruction (PPI), either for revision or for a step further in the completion of the syllabus for examinable subjects only. A study by Boit, Njoki and Chang'ach (2012) investigated the influence of examinations on curriculum implementation by collecting data and analyzing perceptions from teachers and students from various secondary schools in Bomet District. The Theoretical framework for the study was adopted from Wiggins and McTi ghe (1999) backward design model which involves identifying the aims and goals of the school program before decision making. The study revealed that examinations have had a negative effect on curriculum implementation because teachers were selective in the subject and topic to teach in preparing for the examinations rather than what the syllabus prescribes. For instance the researchers found out that the un-examinable subjects like Practical Education (PE) were not taught. Instead teachers used the lesson periods for such subjects to cover the syllabus or revise for examinable subjects. Integration of life skills in certain subjects was also ignored. This is selective teaching where, in a situation of lack of enough teaching staff, the teacher feels he or she is under pressure of the work load for examinable subjects only. However, this is contrary to educational goals specified in the school curriculum.

Another important aspect to be considered that is related to the state of understaffed schools is education quality in primary schools that are public. Teaching work load is obviously heavy where a school is understaffed plus the pressure of handling numerous responsibilities of overcrowded classrooms. In the event of struggling to ensure children obtain the required skills in school, teachers will at times overlook some teaching and learning activities and others may be done shallowly, that is under-teaching. According to a research report by Antoninis (posted 25th Jan 2014) in Malawi, it was noted that children as old as 9 and 10 were unable to read and write their names due to shortage of teachers when they should be able to do it clearly. Less than half of children knew how to read and count and in addition, the youth literacy rate hardly improved over a decade in the country, rising from 72% in 2000 to 77% in 2010. This picture sensitizes us on the danger of poor quality education that could be linked to the increasing gap of teaching staff in schools. The study by Antoninis (2014), however, does not involve responses from educational stakeholders; for example, teachers and educational officers, on their views on the quality of education delivered in the face of understaffing. This was a task of this study.

To add on this, teachers' activities are part and parcel of what contributes to quality education. Quality teaching in our public schools is challenged. With the increase of enrolments, large classes and shortage of teaching staff, teachers do not to give adequate assignments to the pupils and individual attention to pupils' needs is either minimal or lacking (Gachichio & Gachoka, 2010). Moreover, Kikechi et al (2012) concurs with this challenge that quality education is compromised and in particular where few tests are administered to the pupils than the required number. As a result teaching and learning are negatively affected. There is more to be desired, however, especially from the responses of education officers, e.g. quality assurance

officers, who sometimes inspect and assess teachers' work in class. The present study involved them.

Another study on quality education done by Maithya and Akalas (2014) pursued to find out the effects of teacher recruitment and utilization on quality education. Causal comparative design was used. The study targeted 180 teachers, 30 head teachers, TSC and KNEC officials. The authors made use of interview guide, questionnaires and a document analysis guide. Analysis of data was done using means, standard deviations, frequencies, percentages, analysis of variance, t-test regression analysis and content analysis. The study revealed that majority of the schools was understaffed. According to the findings of these authors, there was imbalance in the staffing levels of the schools resulting to underutilization of some teachers while others were over utilized. This could not guarantee high quality education.

Related to the above is that the teacher's ability to identify individual differences and needs of pupils in his class is challenged. This is because in understaffed schools, teachers are overwhelmed by heavy workload and numerous pupils' needs. We have pupils with special needs, for example slow learners who need special attention and concerted efforts to bring them up to a relative level with the other learners. According to Omondi (2011), teachers are not able to give individual attention to the pupils especially the slow learners due to the increasing enrolments and large class sizes. Munguti (2009) also observes that in a case of understaffing with high PTR the frequency of monitoring individual student progress may reduce. This study further found out, from teachers' responses, whether they meet all requirements of their teaching load and the needs of the pupils.

The preparation of the instructional tools of the teacher is also challenged by understaffing in the teaching- learning process. Studies have shown that the teachers' tools that facilitate instruction are not effectively performed, hence a negative influence on effective teaching and learning. They include: lesson plans, working schemes, progressive records, class attendance and records of work records covered among others. Reche et al (2012) observes that the frequency of prior preparation of lesson plans; frequency of head teachers checking the teachers lesson plans; and also the frequency of checking prepared schemes of work are very minimal. Lesson preparation, for example, is an issue. While teachers do develop and use lesson plans to carry out their teaching, many teachers mention that due to high pupil-teacher ratio and expanding class sizes, it is impractical to prepare lessons daily (Omondi, 2011). Although it is essential to have these documents ready for effective teaching and learning, they are not satisfactorily prepared due to heavy teaching workload heaped upon the teacher through lack of enough teaching staff.

Another challenge is the hiring of PTA teachers in schools. In public schools where there are no enough teachers as recommended by Curriculum Based Establishment (CBE), contract teachers are in most cases employed through Parents Teachers Association (PTA). This system is common among many governments in developing countries particularly those in sub-Saharan Africa. This has been an attempt to respond to the urgent need for more teachers arising from increased enrolments (Education For All Global Monitoring Report (EFA), 2015). Even though this arrangement addresses shortages of teachers, there are challenges associated to it. Such challenges include the burden for the parents in paying extra money to pay these teachers. This affects adequate facilitation of learning since not all parents can afford all the necessary materials

for learning; for example, uniform, books, and pens, development fees, etc. Thus, Education quality was affected. According to EFA (2015), where contract teachers are hired, the education quality is negatively affected because they receive limited professional pre-service training except where parental or community involvement is strong in monitoring and training.

In addition to the above challenges there is increase in other responsibilities and the administrative work for the teachers. Other responsibilities may include non-teaching duties like supervision of extra-curricular activities which become more hectic in the event of high enrolments. In her study, Wakoli (2016) discovered that all teachers were assigned different responsibilities apart from the normal class work, extra-curricular activities like sports, clubs etc. Majority of them to a greater extent co-operated in pupils' discipline.

On the part of head teachers as well as their deputy head teachers, administrative or office work is at times challenging particularly when it collides with class attendance. The TSC does not have any provision to exempt them from class work especially with the existing situation of understaffing of teachers. Munguti (2009) observes that in a case where teachers (especially head teachers) are overwhelmed by workload as a result of understaffing, there may be less attention to parents, that is, poor teacher-parent relationship. This results in lack of unity in guiding the pupils and it may consequently lead to indiscipline among the pupils. Kikechi et al (2012) confirms that with the implementation of FPE, cases of indiscipline among pupils are especially where overage children and street children go back to complete their primary education. In this study, the researcher enquired to identify the challenges that come up in teaching and learning as a result of increased administrative tasks caused by understaffing, especially for head teachers and deputies, in relation to their class attendance.

2.3.4 Measures of Improving Staffing

The challenges of understaffing are a wake-up call especially to top educational stakeholders (notably, the MOE, the TSC and the KNUT among others) to work towards improving staffing in our schools. Among the measures that ought to be used to improve staffing include enough staffing of the schools. For instance, since there is no equity in the recruitment and deployment of teachers to diverse locations, the TSC should identify the understaffed schools especially in the ASAL areas and staff them adequately. A study carried out by Reche et al (2012), in Maara District, Tharaka Nithi County in Kenya, recommended that one of the ways of doing away with poor performance in public primary schools is employing more teachers to reduce the heavy workload that the serving teachers already have. On the same note, Linda and Ducommum (extracted October 10, 2014) observe that in high need fields and locations teacher supply and quality should be increased. The present study did not major on poor academic performance as a base for more teachers as is the case above. It got the perspective of the teacher himself in the field on the need.

The distribution of teachers across counties in Kenya upon the event of recruitment is also an improvement to consider for adequate staffing of our schools. Aloo, Simatwa and Nyangori (2011) investigated into the impact of the recruitment policy of school based teachers on deployment and reservation of teachers in public secondary schools of Nyando district in Kenya. A descriptive survey design was used. The study also used stratified sampling technique to choose 26 head teachers from 36 hardship labeled schools as well as five head teachers from ten non-hard ship schools. Thus a sample of thirty one head teachers was used in the study. In addition to this, saturated sampling was used to select the then provincial director of education

(now county directors). To collect data, questionnaires and document analysis were used. An in-depth interview was also used to collect information from the provincial director of education. It was revealed in the study that there was unfairness since there was uneven distribution of teachers where some of the schools suffered understaffing while others were over staffed contrary to the policy in place.

A recommendation was given that, that teacher recruitment and distribution be reviewed time and again; policy makers in the MOE to develop distribution framework which is effective and efficient; to improve teacher distribution across schools and staff balancing to enhance equity. Wanjoi (2013) observes that the government of Kenya needs to address air distribution of teachers in districts (now sub counties). Linda and Ducommum (2014) also suggest that there should be fair and equal distribution of qualified teachers across districts because of the problem of understaffing- which they call “maldistribution” of teachers in public schools. This study, unlike the above, made use of the staffing officer in the local area of study, to enquire on what policies could be effected to improve staffing.

Teacher retention in certain geographical regions of the country, particularly ASAL areas, is among the most important factors of improving staffing in schools. In their study, Ariko and Simatwa (2011), investigated on the factors that influenced teacher transfer requests in Suba District (now sub-county). It employed a descriptive survey design. The socio-economic and environment factors linked to transfer requests included accessibility, location of schools, and availability of opportunities for further studies, electricity and housing.

The findings of the study were significant in that they exposed the problems that hindered teacher retention in Suba District secondary schools. To retain teachers and thus improve

staffing, the study recommended efforts towards the realization of the above socio-economic and environmental needs. It further recommended for opportunities for teacher promotion with more professional contact and support; opportunities for teacher recognition; and availability of induction or mentoring programmes. More research was, however, necessary to establish the extent of government's efforts on retention of teachers in a given county through the MOE.

According to Segun and Olanrewaju (2011), African governments should improve the teaching conditions of the rural schools e.g. by providing housing and suitable accommodation. Again, since many teachers are reluctant to teach in rural areas, rural teachers should be recruited from areas close to where they are to teach. In addition to this, Goertz, Loeb and Wyckoff (2011) suggest that teachers should be motivated in a number of ways including: enhancing financial incentives and support e.g. transport allowances for those working in remote areas. Moreover, Schaffhaser (2014), recommend the following reforms as necessary: transfer reforms; salary increases; good health insurance; good retirement and pension plans; involving teachers in decision making; and adequate administrative support. The measures can also involve manageable class sizes; safe and supportive environment; effective school leadership; and hiring and effective replacement of teachers (www.learningfirst.org/staffing). The present study, unlike the above, enquired from the ASAL teachers (understaffed areas) what would make them comfortable to continue serving in the same regions.

Moreover, the government should strive to come up with other ways of curbing understaffing. Mwika's (2010) study in Tigania West District, Kenya recommended that the government should allocate more funds to hire teachers to curb understaffing problem. In

addition to this, supplementary contract teachers can be part of the solution to Kenya's shortage (Duflo et al, 2015).

2.3.5 Summary and Research Gaps

The key areas discussed in this chapter include: the distribution of the teaching staff in public primary schools which involves the influence of pupil-teacher ratio on teaching and learning; influence of the teachers' workload on teaching and learning; and challenges of understaffing on teaching and learning. In this regard, some areas of research have been highlighted.

The researchers who deal with influence on the learners' academic performance, as a characteristic and product of teaching and learning, include Kaloki (2012), Munguti (2009), and Gurro (2010). According to Kaloki and Gurro, understaffing by which PTR rises influences academic performance negatively. On the contrary, Munguti's study shows that the number of teachers in a school does not determine the students' performance. These studies are confined to performance in examinations. Effective teaching and learning is, on the contrary, a combination of various activities of both the teacher and the learner. The scope of this study included how the teacher's work is affected as a contributing factor to the learner's performance. It also includes how the learner's activities in the course of teaching and learning are affected.

Both Bukhala (2009) and Wakoli (2016) found out that understaffing increases the teachers' workload. This study further found out whether the syllabus is completed in the event of increased work load. This syllabus includes non-examinable subjects. It will also find out how the challenges of understaffing have been dealt with. Munguti (2009), in his study, finds out that understaffing makes the available teachers to be over-utilized while others are under-utilized.

However, he does not find out from the teachers' perspective whether the teacher's work in class is effectively done to ensure learning takes place. This was a task of this research study.

According to Munguti (2009) and Kinyua (2011), understaffing increases the administrative duties of the teacher besides his teaching work. This in turn may bring about poor parent-teacher relationship and indiscipline of the pupils especially where the teacher concentrates more on one area than the other. Wakoli (2016) concurs with the same where she discovered that teachers are assigned with other responsibilities and administrative duties apart from teaching work. The studies, however, have not found out whether the increase in administrative work for the few available teachers may force them not to attend some lessons in class. The current study observed this fact especially with particular emphasis on the head teacher or the deputy who in most cases are overwhelmed by both administrative and teaching work.

Kaloki (2012) and Kanyiri (2009) have addressed the subject of high PTR. They observed that few teachers against very many pupils affect the quality of education. This study further found out, from the teachers' responses, the challenges that may be brought on board in teaching and learning activities by the failure to maintain the required ratio (PTR) of teachers versus pupils.

Little has been researched on what has befallen our public primary schools in the entire exercise of teaching and learning as a result of lack of enough teachers and with regard to how demanding the comprehensive syllabus of our schools is and all the extra curriculum activities that contribute to learning. We also realize that the TSC staffing policies are confronted with striking challenges from the ground level of the schools themselves. This is seen through the schools' massive enrolments, their environmental locations and imbalances in teacher

distribution. The commission is also characterized of disparities in the frequency of recruitment and deployment with regard to the demand in public primary schools. These lapses, among others, constitute a gap that gave a leeway to the researcher to explore, through a more comprehensive study, the real experience of our schools on the fact of understaffing. It has already been mentioned that teaching and learning is not only class work but also activities and interactions outside the class. With this in mind, the study had a broader spectrum to observe the learners' arena of learning.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter particularly describes how the study was carried out. It presents what was done and how it was done. In this aspect, the description drew special attention to the statement of the problem and the established research questions (rose in chapter one) about the said gap. The chapter involves a description about the selected research design, the targeted population, sample and sampling procedures, data collection instruments and the validity and reliability of the research instruments. It also includes data collection techniques and analysis and the considerations on ethical issues in carrying out the study.

3.2 Locale of the Study

This study took place in Makueni sub-county in Makueni County, Kenya. It forms what was formerly referred to as Makueni District in the then Eastern Province. It was chosen for this study because the sub county is one of the hardship areas where teachers are entitled to hardship allowances due to the remoteness of the geographical locations of the schools. In addition, some schools are scattered in Arid and Semi-Arid Locations (ASAL) where not many teachers would be willing to work, hence the understaffed state of the schools (Nzoka, 2011).

However, there are a few schools located in small towns and the adjacent areas. The only big town in the sub county is Wote (Makueni) town. Thus, the district has a diversity of environmental locations of the schools. This diversity consequently constitutes diverse state of staffing.

With this in mind the study of understaffing would be observed with reference to the pupil teacher ratio (PTR) per school as per TSC staffing policies; number of classes in a given school, shared work load and teacher distribution. Thus, to have a proper representativeness in sampling, the above factors should be put in place.

3.3 Research Design

Cross-sectional survey design was used in this study for quantitative instruments. According to Cherry (2015), researchers in a cross-sectional study, record information they observe in the sample population they are examining. They describe characteristics as they exist in a population but not to determine cause and effect relationship between different variables. This design was relevant in the present study since the researcher simply collected data in regards to its influence on teaching and learning and understaffing by way of observation and responses from the said population.

The design can be conducted using any mode of data collection including telephone interviews, questionnaires, electronic mails, etc (Hall, 2013). In cross-sectional studies various categories of people who vary in the variable of interest but share other characteristics such as socio-economic status and educational background, are involved (Roundy, 2003). In this regard, the different groups in the present study include teachers (from both understaffed and overstaffed schools), head teachers, curriculum heads, education officers and the staffing officer in the sub county.

For qualitative instruments, interviews and document analysis guide, the researcher used phenomenology design whose purpose is to describe situations, experiences or phenomenon as

they exist. It was aimed at capturing the interpretation of leaders about their environment (Gall et al 2007).

3.4 Target Population

Makueni Sub County, is where the target population was drawn. It has five educational zones. The zones comprised of public primary schools were as follows: Kee 23; Mukuyuni 20; Kilala 19; Wote 22; and Mulaani 15, giving a total of 99 schools.

The target population therefore comprised of 99 public primary schools in Makueni Sub County, 99 head teachers from the schools and 99 heads of curriculum in the schools. There were 753 teachers in those schools besides the heads of curriculum as well as the head teachers. The population also included the staffing officer and the District Education Officer (DEO) of Makueni Sub County. The composition of the teachers as mentioned above included ordinary (assistant) teachers, heads of curriculum in the schools and the head teachers. They further fell under the category of TSC teachers not PTA teachers. Teachers have a lot of information concerning what they go through in terms of experiences in pedagogy. They would therefore offer necessary information, alternatively positive or negative influence of understaffing, to teaching and learning.

3.5 Sample and Sampling Procedures

McMillan and Schumacher (2001) suggest that in determining sample size, the researcher needs to obtain a sufficient number to provide credible results. They suggested that, in quantitative studies, a sample of 20% from the total population is representative enough. In this study, the sampling techniques used included simple random sampling for teachers whereas

automatic inclusion technique was used for head teachers, heads of curriculum in the schools, the staffing officer and the DEO in the sub county.

3.5.1 Sampling of the Schools

Based on the above argument the researcher sampled 20 schools which were, at least, the 20% of the 99 schools in the sub county. To select the number of schools to participate from each educational zone, the researcher used stratified sampling. According to Ogula (2005), that what is represented in a sample, are various groups of that population through stratification. The population is categorized in stratas, such as rural and urban schools, where samples are drawn randomly. In our case, therefore, the researcher divided the sample size (20) with the population size (99) and multiplied the results by schools in numbers at the particular educational zone. That is, $20/99 \times n$ where n denotes school count in a given educational zone. From this formula, the researcher got the selection of the number of schools per zone to participate in the study.

There were five educational zones in the sub county. Kee zone had 23 schools from which 5 were selected; Mukuyuni zone had 20 schools from which 4 were selected; Kilala zone had 19 schools from which 4 were selected; Wote zone had 22 schools from which 4 were selected; and Mulaani zone had 15 schools from which 3 were selected. The entire population of schools from this list (23, 20, 19, 22, 15) was 99 and the entire population of the selected schools (5, 4, 4, 4, 3) was 20. Twenty schools was therefore the total sample size of the selected schools for the study.

This study used simple random sampling was used to arrive to which schools (by name to give us the size of the sample) out of the number of schools per zone to take part in this study. A list of schools per zone was made and small papers were folded hence placed in a plate in order

to pick the required number of sampled schools per a given zone. In order to create a high chance of every school to be selected, the papers were picked and opened and the name of the schools were listed. The papers were folded and returned to the plate and then randomly a paper would be picked again. This was repeated until all the 20 schools were picked.

3.5.2 Sampling of Heads of Curriculum and Head Teachers

The sampling of heads of curriculum (HOCs) and head teachers was by automatic inclusion technique of purposive sampling. They have important information for each sampled school in terms of the influence of the staffing levels to the administration and to the work load which in turn affects teaching and learning. In this regard, since the sample size for the schools was 20, it followed that 20 head teachers and 20 teachers in charge of curriculum (HOCs) had to be selected for this purpose. This indicated that both the head teacher and the HOC for each sampled school would participate.

3.5.3 Sampling of the Teachers

We have already noted that there were 753 teachers besides the head teachers and the HOCs. Therefore, to get the total figure of teachers to participate, it was 20% of 753 which is 150.6 (approximately 151). Further, to get the figure of teachers per school to participate, it was the cumulative total of teachers to participate (151) divided by the number of schools to participate (20), which is 7.55 (approximately 8). In order to establish the number of teachers to participate among the teachers in a given school simple random sampling technique was then used. A list of the teachers per school was made and small papers folded and put in a plate in order to pick the number of sampled teachers per a given school. The researcher engaged the teachers in the exercise of picking the papers. In order to create a high chance of every teacher to

be selected the paper was picked and opened and the name of the teacher was listed. The papers were folded and returned to the plate and then randomly a paper would be picked again. This was repeated until the needed teacher numbers for each school was picked to make the total sample size.

3.5.4 Sampling of the Staffing Officer and the DEO

Automatic inclusion technique of sampling was used where the one staffing officer in the sub county and the one District Education Officer (DEO) in the sub county participated in this study. The staffing officer and the DEO acted as key informants because they undertake the matters of teacher establishment in this sub county under study. Generally, the categories of all the respondents mentioned are shown in table 1.

Category of Respondents	Population	Sampling Technique	Sample	Percentage
Head teachers	99	automatic inclusion	20	20
HOCs curriculum	99	automatic inclusion	20	20
Teachers	753	simple random	151	20
Staffing officer	1	automatic inclusion	1	100
District Education Officer	1	automatic inclusion	1	100
Totals	953		193	

Table 1- Sampling Frame Matrix

Table 3.2 shows a distribution of the target population, the sample and the sampling technique and respondents sample size.

3.6 Description of Research Instruments

This study employed questionnaires, interview guides and document analysis collect data from the collect data from the field.

3.6.1 Questionnaires

Questionnaires were used in this study because they allowed some uniformity in the asking of the questions. They also ensured comparison of the data collected (Kothari, 2005). In this regard, the respondents felt free to answer questions without revealing their identity. The questionnaires had unstructured and structured questions. As Mugenda and Mugenda (2003), puts it, structured questions are easy to analyze whereas unstructured questions allow a greater number of response and can stimulate to think about his feelings or motives and to express what he or she considers being most important.

3.6.2 Questionnaire for Head Teachers

Head teachers from schools selected were administered with a questionnaire. This questionnaire was sub divided into five sections or items: section A captured the respondents demographic information; section B concentrated on the influence of understaffing on the process of learning and teaching including students' performance; section C focused on the impact of work load on teaching and learning; section D on the challenges of understaffing on teaching and learning; and section E on the measures of improving staffing in public primary schools (Ref. Appendix II).

3.6.3 Questionnaire for Teachers

A questionnaire was administered to teachers in selected schools. It included five items or sections: Section A captured teachers' demographic data; section B enquired their responses on

how understaffing influences teaching and learning; section C enquired on the extent to which work load influences teaching and learning in the face of understaffing; and section D was on the challenges of understaffing in teaching and learning; and section E on the measures of improving staffing(Ref. Appendix III).

3.6.4 Questionnaire for HOCs (Heads of Curriculum)

This questionnaire had five sections too: section A was on the respondent's demographic data and section B was on how understaffing influences teaching and learning. Section C was on how the teachers' work load influences teaching and learning and section D was on the challenges of understaffing. The last section in this questionnaire, section E, highlights the means to upgrade the situation found in those schools (Ref. Appendix IV).

3.7 Interview Guides

Interview guides were used for both the staffing officer and the DEO. These two officers act as key informants who implement educational policies. Frankel and Wallen (1993) consider the use of interviews as important in order to probe and elicit more information from the respondents. According to Fetterman (1989), interviews which include both open-ended and closed-ended type of questions are helpful in capturing the informants' own words. This view is also supported by Borg and Gall (1989) who recommend structured and unstructured interviews as the most appropriate for educational studies. In this case the researcher employed the same by use of an interview guide.

3.7.1 Interview Guide for the Staffing Officer

According to Ogula (2005), an interview guide permits the interviewer and helps the respondent clarify his or her thinking on a given point. It also enables the investigator to pursue

leads in order to gain insights into the problem. In this regard, the interview guide for the staffing officer had five sections: Section A collected data on the demographic information of the officer. Section B enquired on the state of understaffing in the sub county and section C enquired on the influence of understaffing on teaching workload. Section D enquired on the challenges that the government faces in the staffing of schools and section E on the ways of improving staffing (Ref. Appendix V).

3.7.2 Interview Guide for the District Education Officer (DEO)

This interview guide had five sections. Section A gathered data on the demographic information of the officer. Section B enquired on how understaffing influences quality in teaching and learning in schools and Section C is about influence of understaffing on teaching workload. Section D enquired on the challenges involved in the staffing of schools and section E on what policies can be implemented by the government to improve staffing (Ref. Appendix VI).

3.8 Document Analysis Guide

A document analysis guide was relevant in obtaining accurate data compiled by the respondents themselves. It is important for analytical examination of public or private recorded data related to the study (Mitchell & Jolly, 2009). The document analysis guide was relevant to this study in that it gathered data on monthly returns on teaching staff versus pupils' enrolments per classes of the primary schools that are public in the sub county (Ref. Appendix VII).

3.9 Validity and Reliability

3.9.1 Validity

Mugenda and Mugenda (2003) underline that validity is the precision of inferences whose foundation is based on research results. Validity of the instruments was determined by the

following steps. First, the researcher discussed each instrument with the supervisors to verify the relevance of the questions in relation to the research questions. Secondly, the researcher involved the research department of the university (CUEA) to clarify and give guidelines on the authenticity of the instruments to the study. Thirdly, the study also involved other masters' students to verify the level of language used to construct the questionnaires. Content validity ensured that the items and domains of the instrument used were appropriate and comprehensive with regard to its intended measurement concepts and the population (Higgins & Green 2011).

3.9.2 Pilot Test

The purpose of pilot test is to ensure the quality and credibility of a study. A pilot test was therefore done to test the instruments' efficiency (Lancaster, Dodd & Williamson, 2004). For the quantitative instruments, five people, in each category (teachers, HOCs and Head teachers), were administered with questionnaires. This was enabled the researcher to test the authenticity of the instruments. The researcher enquired for comments from the respondents on: the accuracy of the questions given; enough space to fill their answers; relevance of the individual items; and whether important information that would seldom be captured by the given questions is detected. In determination of the validity and reliability of the research instruments, the findings were used.

3.9.3 Reliability

An assessment of the consistency of the responses on the pilot questionnaire was done for the purposes of improving the reliability of the instrument. For quantitative items, test-retest technique of reliability testing was used whereby; the researcher administered pilot questionnaires twice to the participants, giving a one week interval, to allow for reliability

testing. The interval in the test-retest reliability was meant to assess the stability of the measurement procedure. Two sets of data were obtained from the respondents and entered into the computer to calculate the internal consistency of the reliability of the instruments. The scores were then correlated using Pearson Product-Moment Correlation formula to determine the reliability coefficient. A reliability test was carried out and the reliability coefficients were as follows: 0.900 for head teachers; 0.875 for heads of curriculum (HOCs); and 0.926 for the teachers (Ref. Appendix VIII). The results shown in the output table indicated that the instrument had a mean reliability coefficient of 0.900; an indication that they were highly reliable. Mugenda and Mugenda (1999) points out that, a reliability results of 0.70 is acceptable.

3.10 Credibility and Dependability of Qualitative Instruments

The reliability of the qualitative items mainly involved the document analysis guide and interview guides. The researcher ensured credibility of these instruments through meticulous record keeping; comparison across accounts where similarities and differences ensured different perspectives represented; and including rich and verbatim descriptions of participants' accounts to support findings. The researcher also involved the respondents' validation by inviting them to comment on whether the final themes and concepts created adequately reflect the phenomenon being investigated (Noble, 2015). To ensure dependability of the instruments, the researcher also involved some members to check on and ascertain the trustworthiness of the tools before use.

3.11 Description of Data Collection Procedures

This study ensured that a letter of transmittal or cover letter accompanied every questionnaire (Mugenda & Mugenda 1999). The researcher also secured a research permit for the research study. National Council of Science, Technology and Innovation (NACOSTI, 2015) points out that, a research permit helps to encourage quality research that will directly benefit

Kenya by increasing scientific knowledge and secure the data and research results of the research work. A permit was therefore obtained from the NACOSTI and a copy of the permit was presented to the county commissioner and the county director of education in Makueni County; who then granted the researcher permission to visit schools under his area of jurisdiction. The researcher then contacted the head teachers of the primary schools through a letter and thereafter made arrangements for the actual schools visits. A date was set where the researcher would interview the staffing officer and the DEO. The questionnaires were dropped in schools and later picked after they had been dully filled.

3.12 Data Analysis Procedures

According Gay, Geoffrey and Peter (2009), data analysis was necessary in order to summarize the data collected in a dependable and accurate manner. Data were analysed qualitatively in regard to the objectives of the study. The recorded discussions through interview guide were transcribed before analysis. The qualitative data were processed by first categorizing responses by coding and labelling each item according to themes. This also included direct quotes from the informants. The research findings were given in narratives and raw data excerpts with conclusions and recommendations.

Descriptive statistics was used to analyse the quantitative data through charts, figures, and tables with percentages and frequencies. Data from field questionnaires were sorted out, coded and fed into the computer for data to be analysed to give descriptive statistics namely frequency distributions and percentages. Tables and figures were used to give a summary of the analysed data. Descriptive statistics were also utilized to analyze demographic data from all the instruments.

3.13 Ethical Considerations

Ethical considerations were considered when carrying out this study. The researcher avoided asking respondents personal or private information. The researcher asked participants not to indicate names in the questionnaires or identify themselves during the time for interview in order to maintain confidentiality and anonymity (Kitchin& Kate, 2000). This was done to protect their identity and dignity and also to help them respond freely to the items without fear.

The researcher also ensured that there was informed consent of the participants in conducting the research. Fouka and Mantzorou (2011), point out some value in informed consent of the respondents because it enables them to participate at liberty and make informed decisions. In support of this, the researcher sought permission through letters to the heads of the primary schools that were visited for data collection. Another ethical consideration that was observed was the obtaining of a research permit obtained from the National Council of Science, Technology and Innovation. In this regard, the researcher could report and introduce himself to the county commissioner and the district education officer who then authorized the researcher to visit the schools within their area of jurisdiction. In the schools, the researcher had a cover letter accompanying the research permit questionnaires for introduction and for good rapport.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

The chapter puts emphasis on the demographic information of the respondents, questionnaire return rate, data presentation, interpretation and discussion of findings. The research questions in this study form the basis of this presentation.

4.2 Questionnaire Return Rate

Questionnaire return rate is the proportion of the questionnaires that are returned after they have been administered to the respondents. Out of the 191 questionnaires administered to the respondents, 182 were returned; and this forms a return rate of 95.29% of the questionnaires. Mugenda and Mugenda (2003), points out that any return rate of questionnaires above 90% is considered representative enough in a study. Table 2 below presents the return rate resulting from the total number of questionnaires administered to the respondents.

Target Respondents	Expected Respondents	%	Actual Respondents	Response rate	Variance	%
Teachers	151	79.06	142	74.35	9	4.71
HOCs	20	10.47	20	10.47	-	-
H/teachers	20	10.47	20	10.47	-	-
Total	191	100	182	95.29		

Table 2 Questionnaire Return Rate

4.3 Demographic Information of Respondents and the School

This section deals with the information on demographic of the participants like gender, age and the education level of respondents. It also discloses the positions or the responsibilities of the teachers and the Geographical locations of the schools.

This study sought to find out the gender, age, qualifications in academics and positions or responsibilities of the participants. The data on gender, age, qualifications in academics and positions or responsibilities of head teachers and teachers are as presented by Table 3.

Demographics	Teachers		Head Teachers		
Sex	Frequency	%	Frequency	%	
Male	70	49	12	60	
Female	72	51	8	40	
Total	142	100	20	100	
Age Category	Frequency	%	Age Category	Frequency	%
18-25	3	2.1	26-34	1	5
25-30	21	14.8	35-44	8	40
30-40	61	43.0	45-54	10	50
40-50	42	29.6	55-60	1	5
50-60	15	10.6	-	-	-
Total	142	100.0	Total	20	100

Demographics	Teachers		Head Teachers	
Academic				
Qualification	Frequency	%	Frequency	%
P1	48	33.8	0	0
Diploma	48	33.8	10	50
Degree	39	27.5	9	45
MED	7	4.9	1	5
Total	142	100	20	100

Responsibility	Frequency	Percentage
Assistant teachers	64	45
Head teachers	14	9.9
Senior teachers	15	10.6
Teachers(others)	40	28.2
Class teachers	9	6.3
Total	142	100

Table 3 Distribution of Teachers and Head Teachers by Gender, Age, Academic

Qualifications and their Positions or Responsibilities

4.3.1 Gender of the Respondents

Data presented in the table indicates that, majority (51%) of classroom teachers in the public primary schools in Makueni County are females, followed closely by males at 49%.

Therefore, it is important to note that this study was gender conscious. If we get the number of questionnaires returned for classroom teachers which is 142 and calculate 51% of this number,

we would get at least 72 female teachers. In addition to this, if we calculate 49% of this number, we would get at least 70 teachers. The difference in this case is very minimal. From this analysis therefore we can be assured that this study was gender representative.

The results for the head teachers show that, males marginally dominate the headship of schools in Makueni County at 60%, as compared to their female counterparts at 40%. The number of head teachers who responded was 20. If we get 60% of this number, we would get 12 head teachers. On the other hand, if we get 40% of the same number, we would get 8 female head teachers. This analysis meant that, for every 20 schools, at least 12 would be males and at least 8 would be females. This difference is, however, inconsequential in terms of gender representation since it is taken care of by that of the class room teachers whose females are more than that of the males.

4.3.2: Age of Respondents

The summary given in table 2 indicate that, majority of the assistant teachers are of ages between 25years and 50 years (cumulative percentage of 87.4%). Only 2.1% of them are below 25 years of age, while the rest, 10.6% are 50 years and above. The results for the head teachers show that half (50%) of them were in the age bracket of 45-54years while 40% are within the ages of 35years to 44years. The remaining 10% are either below 35years or above 55years. This means that the head teachers had prolonged experience in the field of teaching and could provide articulate information on the extent of understaffing and its influence and challenges. They can also suggest valid strategies and policies of improvement especially to the teaching learning process. At least the, study managed to gather data from various age groups of the respondents,

the young and old with little and long experience respectively. This ensured diverse and well versed information from the diverse ages.

4.3.3: Academic Qualification of the Respondents

Both the head teachers and the assistant teachers and were requested to put down their topmost academic achievement. The results obtained are summarized in table 2.

The presented data in the table indicates that, a big number of the primary school teachers in Makueni County are holders P1 certificate (33.8%) and Diploma (33.8%). Majority of them (27.5%) also have a university degree, while only a few (4.9%) have master's degrees. The results for teacher head of schools indicate that half of the head teachers are diploma holders (50%), 45% were holders of bachelor's degree and only 5% had attained master's degrees. A general observation of the entire chart shows us that diploma holders for both the head teachers and the teachers had the biggest number followed closely by degrees. On average, the study got majority of the responses from this group; a few from the lower side; and a few from the upper side and so it had a balanced approach.

4.3.4 Position/ Responsibility of Teachers in the Schools

The study pursued to establish other responsibilities which teachers undertook; other than teaching. In so doing, the researcher asked the teachers to indicate the extra responsibility they had. This was aimed at comparing the teaching workload visa a vie the demands of the extra responsibility. In Table 2, it is evident that most teachers hold other responsibilities other than teaching. These responsibilities together with the high teaching workload denotes that the teachers were overwhelmed and may not be able to prepare adequately for lessons. This concurs with Wakoli's (2016) research study who found out that teachers are fully involved in other tasks

pertaining to administration besides teaching work in the school. For example, supervision of extracurricular activities e.g. games and clubs and other administrative duties.

4.4 The Geographical Locations of the Schools

In this section, the researcher pursued the establishment of the geographical locations of the schools in the county. It was aimed at the establishment of whether the physical location of a given school could influence the distribution of teachers. Figure 1 presents the results obtained.

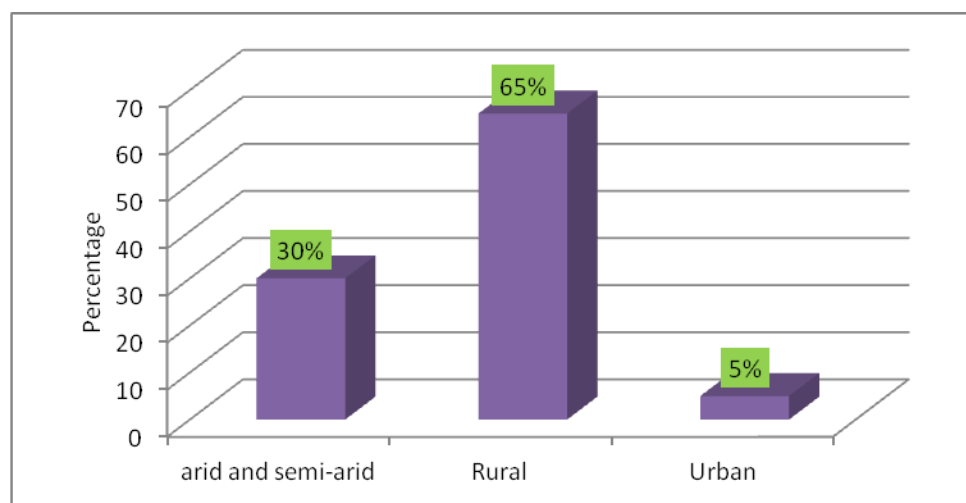


Fig 2: The Distribution of the schools in the sub county

The results in Figure 1 indicated that, majority of schools were concentrated in arid, semi-arid and rural areas. Considering that Makueni County is generally in an ASAL area, the analysis reflects that of Nzoka's (2011) research study who discovered that most of the schools are in ASAL areas (sometimes called hardship zones) with low enrolments where not many teachers would like to work were it not for hardship allowance. The analysis in the chart is also relevant to this study in that schools in ASAL and rural areas, being the majority (95%), would compare in their levels of staffing with those in urban areas (being the minority, 5%).

4.5 Findings According to Research Question 1

4.5.1: The Distribution of Teachers in Public Primary Schools

The document analysis guide, sought to find out the students in number, teachers and classes respectively. This was aimed at determining the fairness in the allocation of teachers among government owned primary schools. By calculating the teacher to class ratio or the teacher to pupil ratio per school, the unfairness in teacher distribution in public primary schools can be determined. Table 4 displays the allocation of the total number of classes per educational zone compared to the total number of teachers in that particular zone. This would give us a general data of the teacher distribution in the sub county and consequently determine the state of staffing in the schools. That is, whether the teachers are fairly or unfairly distributed in the schools.

Educational zone	No. of schools per zone	No. of classes per zone	Expected No. of teachers	Actual No. of teachers	Shortage per zone	Variance
Kee	23	207	207	196	11	-11
Kilala	19	183	183	155	28	-28
Mukuyuni	20	194	194	172	22	-22
Wote	22	251	251	286	-	+35
Mulaani	15	135	135	142	-	+7
Total	99	970	970	951	61	-19

Table 4 Table of Distribution of the Number Teachers versus the Number of Classes per Educational Zone in Public Primary Schools

The distribution in the table shows that, there is unfair or unequal distribution of teachers among public primary schools. One observation we can make from table 4 is that classes in the sub county in total were 970. Therefore, according to the TSC policy of one teacher per class, there should be at least 970 teachers in the sub county. We realize, however, that the actual number of teachers is 951. If we evaluate the state of understaffing by the TSC policy, we would say that the sub county was understaffed by 19 teachers. That is, the difference between 970 and 951. However, the situation is worse than it seems because of the unfair distribution of the teachers. The table shows that some zones were understaffed and others overstaffed. Out of the five educational zones, three were understaffed and two were overstaffed. The understaffed zones include: Kee with a shortage of 11 teachers; Kilala with a shortage of 28 teachers; and Mukuyuni with a shortage of 22 teachers. The total number of teachers needed to match the number of classes in these three zones is 61 which is the sum of the 19 lacking and the 42, (that is 35+7), distributed unfairly as per the table in the overstaffed zones. It was noted through the research that the understaffed educational zones mostly fall under the Arid and Semi-Arid Locations (ASAL). According to the staffing theory, there is no balance between the people working (teachers) and the number of people (classes/pupils) that the environment provides for (Wicker, 1968).

Another observation we can make from the table is that there were two overstaffed zones in the sub county. These include Wote zone, overstaffed by 35 teachers and Mulaani zone, overstaffed by 7 teachers. The two zones were noted to have both town schools and rural schools. In addition, the population of the pupils in these schools was by far higher than that of the schools in the ASAL areas. This confirms the observation earlier made by MOEST (2014)

and KNBS (2012) that even if teachers were to be transferred from the overstaffed zones to solve the problem in the understaffed zones, it would create imbalance because teachers in the overstaffed schools would be teaching extra large classes. This means the overstaffed zones may also be understaffed in terms of the recommended pupil-teacher ratio (40:1).

In an interview with the staffing officer of the sub county on the reasons behind the understaffed state, she made the following remarks:

Some schools are understaffed especially those in remote areas since most teachers start looking for transfers the moment they are deployed in those areas. There is also high attrition rate and lack of proper replacement. For instance we have lost five teachers between last year (2015) and March this year (2016) and only three were replaced (June, 2016).

This indicates clearly part of those factors that cause understaffing in the schools which includes the government not able to employ or replace teachers effectively.

According to TSC (2012), the TSC staffing policies provide that a teacher per class is the requirement plus 2.5 percent of the classes in total in a district. The above statistics contradict these policies because in some schools, there were more classes than teachers or vice versa. Furthermore, there were no reserve teachers of 2.5% as recommended by the staffing policies. Head teachers of various selected schools were asked to indicate whether they experienced shortage of teachers in their schools, and half (50%) of them said 'Yes', while the remaining half felt that there were adequate teachers in their schools. If, therefore half (50%) of the head teachers said they had teacher shortage in the schools, it follows that half of the selected 20 schools were understaffed.

For the sake of triangulation, and in an attempt to further bring into perspective the extent of understaffing in public primary schools, the county staffing officer and the DEO were interviewed. When asked to give the overall assessment of the state of staffing in the county the staffing officer said that some schools were overstaffed while others were understaffed for reasons which could be attributed to the geographical locations of the schools and lack of proper policies on staffing.

On the same note, the DEO said,

The data we obtain from the schools does not show fair distribution of teachers. There are understaffed and overstaffed cases depending on the location of the schools themselves, faulty records and poor updating of the teacher distribution in the county (June, 2016).

The responses of these two officers showed concurrence to the effect that, the schools in the county were indeed understaffed. Their observation was backed up by information in the monthly staff returns from the schools to their offices which indicated pronounced shortage of teachers. According to the returns, understaffing mostly affected schools in ASAL areas, followed by rural schools; as those schools in urban locations were either adequately staffed or overstaffed. Both the staffing officer and the DEO also observed that, there was unfair distribution of teachers even in schools within the same geographical location. This they attributed to the lack of proper policies on staffing, poor updating of records on teacher distribution and the failure by the government to replace those teachers who retire and those who exit the service due to natural attrition.

The extent of teacher shortage and distribution was further assessed by carrying out analysis of documents in the DEO's office, about the number of TSC and PTA teachers in schools. From the analysis, almost every school had employed at least one PTA teacher; with some schools having as many as six. This, in itself, is enough evidence that, there was acute shortage of TSC teachers in schools. The analysis also indicated that, those schools located at urban areas had more TSC teachers and less PTA teachers as compared to their counterparts in rural and ASAL areas respectively.

4.5.2 Influence of Understaffing of Schools to Teaching and Learning in the Sub County

To find out the influence of understaffing in the sub county, teachers were asked to state what happens to learning and teaching in schools which are understaffed. Table 5 summarizes their responses.

Response	YES		NO	
	Freq.	%	Freq.	%
There is poor subject performance	126	88.7	16	11.3
Some classes are not attended but are simply assigned	123	86.6	19	13.4
Under teaching due to heavy workload	123	86.6	19	13.4
poor quality of teaching	121	85.2	21	14.8

Table 5: Influence of Understaffing on Teaching and Learning

In Table 5, 88.7% of the teachers said that, understaffing leads to poor subject performance; 86.6% felt that, some classes were not attended at all, or if attended, then there was under teaching due to heavy workload. A further 85.2% indicated that it resulted to poor quality of teaching. The table clearly shows that majority of teachers are very positive about the influence of understaffing on teaching and learning compared to the small percentage of those

who were negative. In actual fact it was less than 15% of teachers in each item of response who said ‘No’ to the influence of understaffing, (that is 11.3%, 13.4%, 13.4%, 14.8%). Based on this evidence, we can deduce that understaffing influences teaching and learning negatively as noted from the responses of the majority of teachers.

Further, the researcher looked into the pupil-teacher ratio (PTR) in the schools as also an aspect of understaffing of teachers. From an interview with the DEO, the recommended pupil to teacher ratio in schools was 40:1. The staffing officer on the other hand defined an understaffed school as follows:

A school is understaffed when the class numbers exceeds teacher numbers in a school. It can also be understaffed when the pupil-teacher ratio exceeds the recommended one which is at least 1:40 and at most 1:50 (June, 2016).

According to her, the PTR in most schools in the county was above the specified; with some having high PTR of 61.1, and this negatively affects content delivery, teacher preparation for lessons, syllabus coverage, learner assessment, and attendance to co-curricular activities; among others. This confirms Barker and Gump’s (1964) theory. They were interested in the relationship between school size and the number of extra curriculum activities done and reported by a graduating class. They found out that as school size increased, the number of activities that the students participated in went down. The findings also reflect the data obtained by Kenya National Bureau of Statistics (2012), facts and figures, on the trend of pupil-teacher ratios over the years which showed pupil-teacher ratio of 1:50.4 in the year 2008; 1:51.6 in 2009; 1:54.4 in 2010; and 1:56.6 in 2011 (KNBS, 2012). These figures clearly indicates that the number of pupils continue to increase while the number of teachers either remains constant or decreases.

When asked on the reasons why the recommended ratio should be maintained, the DEO said:

The recommended ratio should be maintained to ensure quality education through effective class instruction and class control. It is also necessary for the teacher to meet special needs (individual needs) of the children. The ratio also ensures effective management or administration of the schools, to take care of the teacher and to maintain the recommended work load for the teacher (June, 2016).

The responses of both the staffing officer and the DEO are a clear indication that the PTR in most schools in the sub county is above the recommended one and thus a hindrance to effective teaching and learning since the higher the PTR in a school, the bigger the class sizes. This concurs with what Kanyiri (2009) and Kikechi et al (2012) found out in their studies. According to their findings, smaller classes which are a product of low or moderate PTR tend to perform better than large class sizes. This is because teachers are able to manage the smaller classes more effectively and have separate interaction for each individual's needs of the pupils.

4.5.3 Influence of High Pupil-Teacher Ratio on Teaching and Learning

To try and establish the intensity of the effects caused by understaffing, teachers were asked to state what happens to class instruction in schools with high PTR (High Pupil Teacher Ratio). That is, in situations where classes had over 50 pupils in a class. Table 6 summarizes their responses.

Response	YES		NO	
	Freq.	%	Freq.	%
Congestion in classes	131	92.3	11	7.7
Poor class instruction	89	62.7	53	37.3
Marking assignments becomes a challenge	122	85.9	20	14.1
Teachers may not give enough assignments	121	85.2	21	14.8
Individual attention to slow learners becomes rare	104	73.2	38	23.8
Poor quality education	127	89.4	15	10.6

Table 6: Influence of High PTR on Teaching and Learning

The results isolate congestion in classes as the greatest effect of high PTR at 92.3%, followed by the poor quality education (89.4%). The challenge of marking assignments is also highly rated at 85.9%; alongside the failure of teachers to give assignments at 85.2%. Lack of individual attention to slow learners scored (73.2%); and Poor class instruction (62.7%). The data from the table presents a very sharp contrast between the number of teachers (the majority) who agree that high PTR influences teaching and learning negatively and the number of teachers (the minority) who disagree that high PTR seldom influence teaching and learning. The biggest percentage of those that did not admit the influences was 92.3% and the minimum is 62.7%. The highest percentage of those who do not accept the influences is 37.3% and the minimum is 7.7%. On the basis of this contrast, the study shows that high PTR in schools would have more disadvantages than advantages in teaching and learning. This has a close relationship with the findings of Bascia (2010) on how class sizes (a product of high school PTR) influences learning. His findings concluded that students in small classes were more engaged in learning than students in large size classes.

4.5.4 Average Number of Pupils Per Class Per Teacher in the Schools

An item in the questionnaire sought to establish the average number of pupils per class for all the classes in those schools. This was aimed at evaluating the number of pupils that teachers have to handle in a class at any time. Table 7 shows the results obtained.

Pupils per class	Frequency	Percentage
10-20	1	5.
20-30	9	45
30-40	5	25
40-50	3	15
50- 60	1	5
60-70	1	5
Total	20	100

Table 7: Average Number of Pupils per Class

The distribution in the table shows that, most classes had the recommended number of pupils (i.e. 40-50). However, there are extreme cases where the number has largely been exceeded; e.g. the case where a class has 60 to 70 pupils. The results are in exact concurrence with the results obtained by Kanyiri (2009) in a study done in Kajiado, Kenya. From the study, Majority, 85 (49.7 percent) of the teachers, indicated the number of pupils were between 21-40 pupils. However, there were some cases where the number of pupils was above 60. Kanyiri observed that some teachers could hold classes of up to 70 pupils, and from the teachers' responses, this meant less individual attention to pupils. She adds that this is accompanied by lack of motivation for teachers who are overworked and underpaid.

These results in table7 clearly indicate that a bigger number of the schools in Makueni sub county, have average class sizes ranging from 10-50 pupils. This is noted from the following percentages: 5%, 45%, 25%, and 15%, which gives a total of 90%. Only a small percentage

(10%) of the schools' class sizes is above 50 pupils. Based on this data, this study deduces that class control and management can be effectively done in most of the schools if there were enough teachers. However, due to the unfair distribution of teachers, most of the essential needs of the classes (whether small or large sizes) remain unattended to.

4.5.5 Influence of the Staffing levels of the Schools on Teacher Utilization

To crown the influences of understaffing and high PTR, the teachers were asked to indicate whether the number of teachers in a given school were underutilized (3), efficiently utilized (2), or over utilized (1) as per their work load; and while making reference to the staffing levels of the schools, i.e. overstaffed, adequately staffed and understaffed. Their responses are as summarized in Table 8.

Category	N	Minimum	Maximum	Mean	Std. Deviation
Overstaffed	141	1.00	3.00	2.5745	.76750
adequately staffed	142	1.00	2.00	1.9789	.14432
Understaffed	141	1.00	3.00	1.3688	.77838
Valid N (list wise)	141				

Table 8: Responses as to whether the Staffing Levels of the Schools Influences Teacher

Utilization Either Positively or Negatively

The presentation in Table 8 show a negative influence is observed on teacher utilization in both overstaffed and understaffed schools and a good influence in adequately staffed schools. In overstaffed schools, only a few of the teachers are efficiently utilized while a majority is under-utilized. This is as attested by the mean 2.5745 of the responses; which Indicates that a bigger number of the teachers responded in favor of 'under-utilized'. In understaffed schools, a bigger number of the respondents felt that teachers were over utilized as confirmed by the mean

of 1.3688 of the responses. Finally in adequately staffed schools, the participants felt that teachers were efficiently utilized (mean 1.9789). Generally the results confirm a negative influence in teaching and learning because where the teachers are over utilized, they may not teach effectively because of daily fatigue and as a result the syllabus may either not be completed or be shallowly done.

The results in this study therefore concur with Munguti's (2009) findings of as noted in the review of literature. He was interested in teacher utilization in schools. He observed that where schools are understaffed, the available teachers are over utilized. On the contrary, where schools are overstaffed, the teachers are underutilized because the workload is light. He recommended that there should be no shortage of teachers when there are some schools whereby the teachers are underutilized.

4.6 Findings According to Research Question 2

4.6.1 Influence of Teacher Workload on Teaching and Learning

It was necessary first to establish the real causes of increased workloads among teachers in government owned primary schools of the sub-county. Table 9 summarizes some of the suggested causes.

Response	YES		NO	
	Freq.	%	Freq.	%
Caused by inclusion of non-examinable subjects in syllabus	4	20.0	16	80
Caused by failure to staff the schools adequately (understaffing)	13	65.0	7	35
Caused by poor or un-proportional distribution of teachers to the school	9	45.0	11	55

Table 9: Responses as to whether the Following were Causes of High Workload

From the table, understaffing was identified as the most determining cause of high or increased workloads among teachers (65%). The others were poor or un-proportional distribution of teachers to the school (45%), and inclusion of non-examinable subjects in syllabus (20%). This analysis concurred with the findings of both Bukhala's (2009) and Munguti's (2009) studies as was indicated in the literature review. Bukhala verified that high teaching load per week was determined by shortage of teachers while Munguti showed that where schools were understaffed, the teachers were over utilized.

4.6.2 Lessons of Teachers per Week

In an attempt to find out teacher's influence on workload on teaching and learning, the teachers were requested to put down the total lessons taught per week. The results showed that out of 142 teachers, the minimum number of lessons (teaching work load) taught by a small number of teachers was 10. On the other hand, those who indicated the maximum had 40. The average number of lessons per teacher per week was 32. These results revealed a high disparity in the number of lessons per teacher per week; where one teacher has as low as 10 while another struggles with 40. This could be caused by unequal allocation of teachers in schools. The average of 32 lessons per teacher per week suggests that teachers have relatively high teaching workloads, and this affects the effectiveness and efficiency of the teachers negatively.

The implication of some the teachers having the least number of lessons per week (10) is that the schools in which such teachers work are overstaffed. On the other hand, schools in which teachers with 40 lessons per week work are understaffed. The effect of this difference is the quality of work (teaching and learning) they produce in each of the respective schools. In understaffed schools where the workload is overwhelming, little is achieved including failure to

complete the syllabus and under teaching in an attempt to quicken the finishing of the syllabus. Quality teaching and learning is also not guaranteed in overstaffed schools where the workload is light since some teachers may relax expecting their colleagues to stand in their place to tackle exhaustively certain topics of the syllabus.

Similar statistics are replicated for head teachers. Out of the 19 who responded to this item, the minimum number of lessons (teaching work load) per head teacher per week for some of them was 10 and the maximum was 40. That gave an average of 29 lessons in a week. Generally, these findings replicate those of Munguti (2009) and Wakoli's (2016) studies which observed that variations were noted in those teaching loads. The variations could be due to the fact that a school is understaffed or overstaffed and it meant some teachers were over utilized and others were underutilized. The information captured by documents in the DEO's office showed that, on average, a teacher had between 30 and 40 lessons per week. This is in resonance with the information from the teachers and head teachers.

Other than lesson preparation, high workload also affects the preparation of professional documents e.g. records of work. This was as attested by the responses from the HOD's when asked to state the time interval teachers present their records of work to them. From their responses, 55% of the respondents indicated that the documents were submitted on quarterly basis; 40% indicated that these were submitted after every one month, and 5% said that they were submitted yearly.

4.6.3 Influence Heavy Workload on Teaching and Learning

Teachers were further asked to state what happens to the teachers instruction work as part of learning and teaching in the schools where teachers are overwhelmed by heavy work load due to understaffing. Table 10 summarizes the responses obtained.

Response	YES		NO	
	Freq.	%	Freq.	%
Heavy workload make teachers not to attend all classes	129	90.2	13	8.8
Teachers do not prepare all lessons for all classes	112	78.9	30	21.1
Teachers don't prepare all schemes of work	86	60.6	56	39.4
Marking assignments takes longer time	128	90.1	14	9.9
Heavy workload dictates teachers to combine classes	101	71.1	41	28.9
Teachers don't give assignments for all lesson periods for all classes	111	78.2	31	28.9
Due to heavy workload, teachers give priority to examinable subjects	125	88	17	12
Teachers use non-examinable subject periods to cover the syllabus of examinable subjects	129	90.8	13	9.2

Table 10: Teachers Responses showing if there is Influence of Heavy Work Load on Teaching and Learning

Table 10 shows that, a big percentage of teachers, (90.8%), are of the opinion that, teachers use non-examinable subject periods to cover the syllabus of examinable subjects. 90.2% of them said that, heavy work load makes teachers not to attend all classes, 90.1% pointed out that marking of assignments would take longer time than expected. The other responses showed that: teachers don't give assignments for all lesson periods for all classes (78.2%); teachers give priority to examinable subjects (88%); heavy workload dictates teachers to combine classes

(71.1%); teachers don't prepare all schemes of work (60.6%); teachers do not prepare all lessons for all classes (78.9%).

The results generally show that, understaffing adversely affects pedagogy in primary schools that are public (as noted from the effect of the high teachers' workload). It is clear from the findings that majority of these teachers are positive about the given influences of high workload to pedagogy. The greatest influence (98.8%) is seen in the selective teaching of subjects where examinable subjects are the only ones taught at the expense of the non examinable subjects. Teachers also agree in large numbers (78.9%, 60.6%, 90.1%, 71.1%, 78.2%, 88%, 90.8%) to other influences like failure to prepare all lessons; failure to prepare all schemes of work; taking long to mark assignments; combining classes; failure to give enough assignments; and failure to teach examinable subjects respectively. The responses show that the minimal response is felt in the schemes of work preparation of which far much more than the negative responses (the highest percentage being 39%). Out these facts, we realize that heavy teaching workload caused by understaffing has far reaching influences to pedagogy in schools.

On the same item, heads of curriculum (HOCs) were asked to give reasons why non-examinable subjects are probably not taught in their schools. 95% of them said that it was because there were no enough teachers and that the ones available were already overworked. On as to whether teachers were in serviced on the subjects or not, 90% of them admitted that the teachers had training on the subjects; only that, there was no enough time to teach them because of shortage of teachers. The high percentage (95%) of the responses is a clear indication that lack of enough teachers in schools dictates teachers to overlook non examinable subjects. Consequently, some learning values are denied.

4.6.4 Influence of Understaffing, Heavy Teaching Work load and High PTR on Pupils’

Performance

Further, the teachers were required to give their overall assessment of how much they thought that understaffing; heavy teaching work load; and high PTR influence pupils’ performance negatively. This was on a 5-point scale of Very Much (5), Much (4), No Opinion (3), partially (2), No Influence (1). The responses were then analyzed using descriptive statistics as shown in Table 11.

Category	N	Minimum	Maximum	Mean	Std. Deviation
Understaffing	136	2.00	5.00	4.6765	.63108
Heavy teaching workload	138	1.00	5.00	4.5435	.80255
High PTR	136	1.00	5.00	4.2647	1.05574

Table 11: Responses as to whether Understaffing; Heavy Teaching Work Load; and High PTR Influences Pupils’ Performance Negatively

The analysis shows that most of the responses revolved around ‘Very Much’ and ‘Much’. This is as attested by the overall means of between 4 and 5. This denotes that a big number of the responses agree with this idea that, understaffing; heavy teaching work load; and high PTR generally influence pupils’ performance negatively.

The analysis complements that of another study carried out in Marsabit Central District by Gurro (2010), to establish if there was a major relationship between pupils' performance and the number of teachers. From the study, teachers vehemently agreed that poor academic performance was caused by shortage of teachers in the school. Thus his study showed that the fact of inadequate teachers in schools was a factor responsible for low academic achievement.

4.6.5 Responses as to whether Understaffing Influences Teaching and Learning Activities Negatively

The head teachers on their part were asked to give their ratings on how the following teaching and learning activities were done in the face of understaffing and work load. They were to respond to items in a 5-point linkert scale of; done excellently (1), Fairly done (2), No opinion (3), Poorly done (4), and Not done at all (5). This was aimed at determining whether the activities were negatively influenced by understaffing and high teaching workload. Table 12 summarizes their responses, together with their means and standard deviations.

T/L Activities	N	Minimum	Maximum	Mean	Std. Deviation
Lesson planning for all classes	19	3.00	5.00	4.0526	.40465
Schemes of work for all classes	18	3.00	5.00	4.2778	.57451
Class attendance	19	4.00	5.00	4.6842	.47757
None examinable subjects	19	2.00	4.00	2.8421	1.01451
Games and sports	19	2.00	5.00	4.2105	.78733
Clubs and societies	18	1.00	4.00	3.0000	1.08465

Table 12: Teachers Responses as to whether Understaffing and High Teaching Workload

Influences Teaching-learning Activities Negatively

It is evident from the responses that the influence is negative. That is, teaching and learning activities are poorly done due to understaffing and heavy teaching workload. This is because a big number of the responses revolved around the mean of 4 (that is poorly done). Among the teaching and learning activities whose responses revolved around the mean of 4 (that is poorly done) included lesson planning (4.0526); schemes of work for all classes (4.2778); class

attendance (4.6842); and games and sports (4.2105). This indicates that a big percentage of the teacher heads either agree or strongly agree in regards to the teaching-learning activities mentioned are poorly or very poorly done. Based on this common response (poorly done) by most of head teachers, it is certain that the effectiveness of these teaching and learning activities is negatively influenced by understaffing and heavy workload in the schools.

Results tabled also indicate that a good number of them hardly give any opinion. Responses on non examinable subjects mostly revolved around 2 (that is fairly done) whereas a majority of the respondents seldom gave any opinion on clubs and societies. The results therefore suggest that, understaffing and high teaching workload affects both curricular and co-curricular activities negatively, though not on equal scale.

4.6.6 Influence of High Work load on Office work

In an effort to find out the influence of high workload and understaffing on administrative activities of the school, the head teachers were requested to indicate whether or not their office work sometimes collided with the time scheduled for class attendance. All of them (100%) were in agreement that high workloads and understaffing had some influence on their administrative activities. They were further asked to state what happens to their office work in the event that, their lessons collide with office work. Table 13 presents the responses:

Response	YES		NO	
	Freq.	%	Freq.	%
Office work is done partially & visitors attended partially	13	65	7	35
Office work and visitors to office are delayed until all classes are over	3	15	17	85
Office work and visitors to office remain unattended for some time.	6	30	14	70

Table 13: Responses as to whether High Workload Influences Office Work negatively

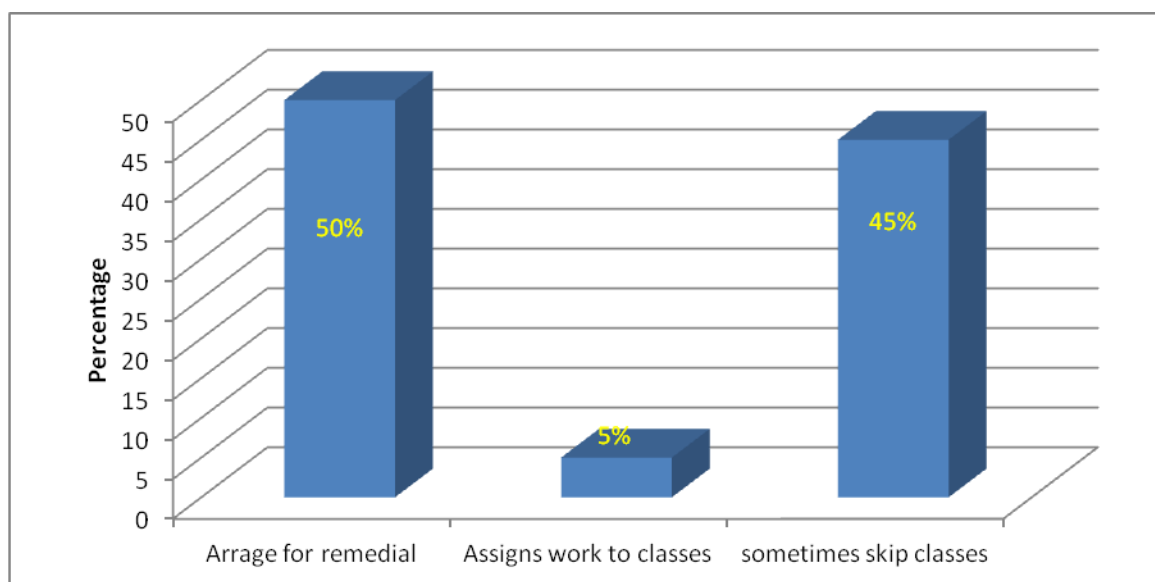
n = 20

In Table 13, 65% of the head of schools said that office work was done partially and visitors attended partially; 30% indicated that office work and visitors to office were left unattended for some time; and 15% said that office work and visitors to office are delayed until all classes are over. In the first item of response, the strength of the response lies on the agreement side (Yes, 65%) compared to the disagreement (No, 35%). This means the head teachers do not have enough work force to delegate their lesson period in the event of collision with office work. Therefore nothing is done exhaustively, both class work and office work. In the second and third items of response, the strength of the response lies on the disagreement (No, 85% and 70%) compared to the agreement side (Yes, 15% and 30%). This means that the time given for a particular lesson period is shared in the event of a visitor or urgent office work since two responsibilities cannot run concurrently. Majority of head teachers (85%) opposed to delaying work in the office and visitors to office or remaining unattended for a long time is a clear indication that they value the necessity of their administrative duties despite the negative influence it would have on pedagogy in the face of understaffing and high workload.

The responses therefore give a suggestion that, in the event of a collision between class work and office work, class work is mostly forgone in the procedure of attending to some office duties. If there were enough teachers in all the schools, the collision between class work and office work for head teachers would probably not affect class work since the available teachers would cater for what the head of schools are engaged in at the moment in terms of pedagogy. On the contrary, however, teaching and learning are influenced negatively since the head teachers are forced to share the burden of class work with the few available teachers.

4.6.7 Responses on Influence of Teaching Work load versus Office Work on Class Attendance

The head teachers were further asked to mention what they did with class work in cases where they were faced with too much and urgent office work. Fig 2 summarizes the responses obtained.

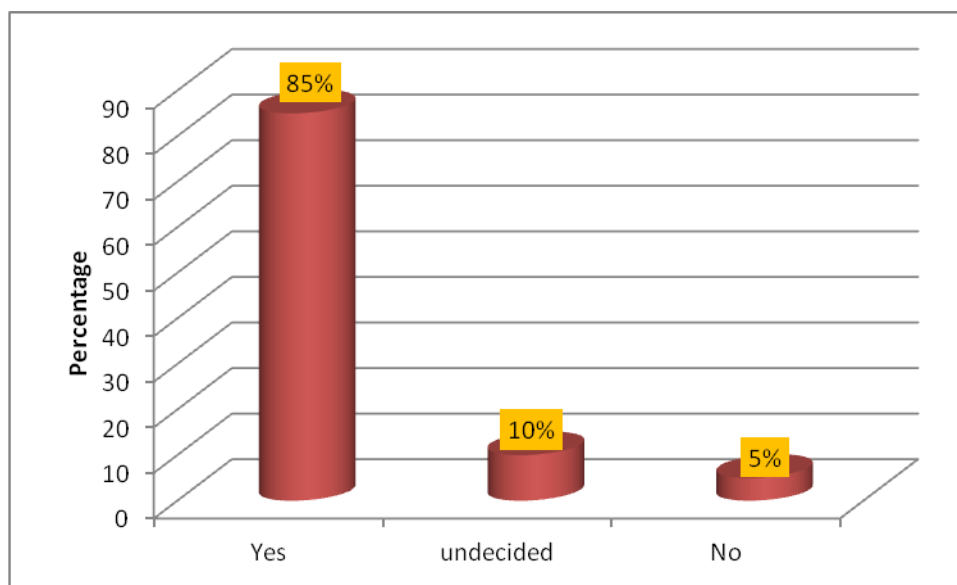


Head teachers' responses on workload
Fig 3: Influence of High Workload on Class Work

It is clear from Figure 2 that the highest percentage (50%) of head teachers arranges for remedial teaching and 45% skip classes in the event of too much and urgent office work. Only 5% - assigns work to the classes. In this context the notion here is that both the teaching time table and the day's routine are affected and whether or not the pupils will concentrate at the odd hour of remedial teaching leaves a lot to be desired. Teaching and learning are thus influenced negatively in schools where head teachers have high work load due to understaffing.

4.6.8 Responses on Influence of Teaching Work load on Syllabus Coverage

The shortage of teachers in schools delays the coverage of syllabus. This was as attested by the following responses from the head teachers when asked to indicate whether teacher shortage lead to delays in syllabus coverage. This is shown in Figure 3.



Head teachers' responses on syllabus coverage

Fig 4: Influence of high workload on syllabus coverage

The results in the figure indicate that, the head teachers had unanimous agreement that, high workload negatively affects syllabus coverage. This is as attested by the high percentage (85%)

who responded to the affirmative. This high percentage of the head teachers holding the same response is a clear indication that a great number of the schools in the sub county, with shortage of teachers, suffer the same problem of delays in syllabus coverage. Consequently, the delay forces the teachers to under teach the pupils in an attempt to compete with time. In that process then, the performance of the pupils in exams is negatively affected.

On the same issue, the HOD's were asked to state the extent to which syllabus was covered in their schools, to which they responded as follows:

Response	Frequency	Percentage
Fully	6	30
No opinion	1	5
Hardly partially	1	5
Almost	10	50
Partially	2	10
Total	20	100

Table 14: The extent of syllabus coverage in schools

The responses show that, a majority of the HOD's (50%) are of the opinion that the syllabus is always almost covered. Thus, since almost does not mean fully, it follows that a majority of the schools do not fully cover the syllabus. This can be attributed to the high workload on teachers due to understaffing. It concurs to the studies of Orodho et al (2013) and Boit et al (2012) who observed that the curriculum was not effectively implemented and that there was selective teaching of subjects, meaning the syllabus could not be fully covered. Out their experience, only (30%) of the selected HODs felt that the syllabus is fully covered; 10% said it is partially covered; 5% said it is hardly partially covered and 5% had no opinion.

4.7 Findings According to Research Question 3

4.7.1 Responses of Head Teachers on the Challenges Experienced by Understaffed Schools in Teaching and Learning

In an effort to identify some of the challenges caused by understaffing on teaching and learning, the head teachers were requested to identify the challenges experienced in their schools in the face of understaffing. Their responses are disclosed in the following table.

Response	Yes		No	
	Frequency	%	Frequency	%
Increase in the teachers workload	17	85	3	15
Teachers fatigue	12	60	8	40
Increased administrative work	6	30	14	70
Increase of indiscipline cases	12	60	8	40
Poor performance	12	60	8	40

Table 15: Head teachers' responses on the Challenges Experienced by Understaffed Schools on Teaching and Learning

The data shows that more than fifty percent of the head teachers had a common feeling that increase in workload, fatigue, indiscipline cases and poor performance were some of the great challenges caused by understaffing on teaching and learning. This is as indicated by those who agreed that the challenges are experienced in the schools. That is 85%, 60%, 60% and 60% respectively. It is only one challenge, that is, increased administrative work, which had the support of a few respondents (30%).

4.7.2 Responses of Teachers on Challenges Experienced in Understaffed Schools in Teaching and Learning

Besides the head teachers, the other teachers in the schools responded on the question of challenges encountered by teachers in understaffed schools. Table 16 summarizes some of the challenges they identified.

Response	YES		NO	
	Freq.	%	Freq.	%
Heavy teaching workload	124	87.3	18	12.7
Fatigue by the end of the day	115	81.0	27	19.0
Difficulties in class control	91	64.1	51	35.9
Excessive learners needs to handle	112	78.9	30	21.9
Being overworked with no motivation	109	76.8	33	23.2
Double roles	96	67.6	46	32.4
Excessive assignments	122	85.9	20	14.1

Table 16: Teachers Responses on the Challenges Encountered in Understaffed Schools in Teaching and Learning

From the table, it is indicative that, there were many challenges faced by schools as a result of understaffing. The high percentage ratings of the responses are a clear indication that, the challenges were real and felt. The highest ranked were heavy teaching workload (87.3%), excessive assignments (85%), fatigue 81%, overworking without motivation (76.8%), and excessive learner needs to handle (78.9%). Others were double roles (67.6%), and difficult class control (64.1%).

4.7.3 Additional Challenges of Duties Brought about by High Pupil-Teacher Ratio

The teachers were also asked to mention challenges of additional duties, besides teaching, originating from high pupil teacher ratio (PTR) to the available teachers in the understaffed schools. Their responses were captured and summarized as follows:

Challenge/Response	YES		NO	
	Freq.	%	Freq.	%
Dealing with increased number of indiscipline cases	127	89.4	15	10.6
Dealing with increased cases of increased special need children	113	79.6	29	20.4
More work in individual attention to slow learners	77	54.2	65	45.8
More work in keeping of records	99	69.7	43	30.3
More work in supervision of duties	107	75.4	35	24.6
More work in the collection of PTA money	101	71.1	41	28.9
More work in taking care of boarding facilities	86	60.6	56	39.4

Table 17: Challenges of Additional Duties Brought about by High Pupil-Teacher Ratio

The presentation in the table shows that high pupil to teacher ratio lead to increased cases of indiscipline at 89.4%. The other challenges adversely mentioned include: increased cases of special need children (79.6%); more work in supervision of duties (75.4%); more work in the collection of PTA money (71.1%); more work in keeping of records(69.7%); more work in taking care of boarding facilities (60.6%); and more work in individual attention to slow learners (54.2%). This analysis of additional duties brought about by high PTR challenges the teachers' effectiveness in teaching and learning. It confirms the theory by Baker and Gump (1964) that too much work or activities against an individual e.g. in understaffed schools, may result in an individual not accomplishing much (Forsyth, 2010). It also concurs with Munguti's (2009) study,

that in a case of understaffing with high PTR the frequency of monitoring individual student progress may reduce. The high percentages of the respondents who accept the possibility of the above challenges are above average and are a clear indication that high pupil-teacher ratio brings about increase in indiscipline cases; increase in special needs children; and more work in attention to slow learners; keeping of records; supervision of duties; collection of PTA money; and taking care of boarding facilities. The percentages of those who do not accept the above challenges are below average and so they are not convincing enough to restrict the researcher from drawing the conclusion mentioned above on the high percentages of the 'Yes' side.

The above analysis also concurs with the interview done with the staffing officer. When asked on how high PTR in schools can influence teaching and learning, she commended:

It's a challenge to the management of the schools. The more the children, the more the inconveniences to the management and administration of the school. Again some classes may go without teachers; that is left unattended in terms of class attendance; and others are simply assigned (June, 2016).

4.7.4 Challenges caused by understaffing, PTR and Work load

An item in the questionnaire required the teachers to give their level of agreement or disagreement to some statements. This was on a 5-point scale of Strongly Disagree-5, Disagree-4, Neutral-3, Agree-2, and Strongly Agree-1. Table 18 gives the summary of the responses in their means and standard deviations.

Statement	N	Minimum	Maximum	Mean	Std. deviation
High PTR leads to large class size and poor instruction	140	1.00	5.00	1.6357	.89129
It is easier to teach a large class size than a small class size	134	1.00	5.00	4.5821	.93631
It is the approach not the no. of teachers that determines effective learning	134	1.00	5.00	3.6567	1.31563
It is the number of teachers who have shared work not the class size that determine learning	134	1.00	5.00	3.2463	1.27696

Table 18: Challenges Caused by Understaffing, High PTR, and High Workload

From the means of the responses, teachers disagreed with the statement that “it is easier to teach a large class size than a small class size”. They also either disagreed or were neutral in the statements that; “it is the approach not the number of teachers that determines effective learning (mean=3.6567)”, and “it is the number of teachers who have shared work not the class size that determine learning (mean=3.2463). In these two figures, the results a middle ground between the two facts compared. It also shows that the number of teachers matters in determining effective teaching and learning. However, the respondents were in strong agreement with the statement that high PTR leads to large class size and poor instruction (mean=1.6357). Generally the results confirm that understaffing, high PTR and high workload influences teaching and learning negatively.

On class sizes, the concentration of the responses revolved around (i.e. disagreed to teaching a large class size for it leads to poor instruction). This means that majority of teachers would prefer teaching small class sizes in a school where the recommended pupil-teacher ratio is

maintained. This can be achieved by staffing the school adequately. About the number of teachers in a school versus the approach in teaching and the class sizes, most of the responses revolved around 4 and 3 (disagreed and neutral respectively). In this regard, two points are worth noting. It means the number of teachers in a school is a key factor on effective teaching and learning. However, the approach in teaching and the class sizes cannot be ignored. They have a place to contribute as well on teaching and learning. The overall data given on the table therefore shows understaffing, high PTR and high workload have a part to play on teaching and learning. If one goes beyond the recommended, it becomes a challenge to the process of teaching and learning.

Generally, the discussions on the challenges resulting from high workload, understaffing and high PTR, are in agreement with the literature on the same. For example, according to the studies of Gachichio & Gachoka, (2010) and Kikechi et al (2012) teachers were not able to adequate assignments to pupils and administering of tests were minimal. This is because they cannot cope with the marking and teaching workload caused by teacher shortage. As a result there is poor instruction which negatively affects teaching and learning. In situations where the number of students does not correspond to the number of teachers as recommended by Curriculum Based Establishment (CBE), EFA (2015) has highlighted that the quality of education is affected in the event where PTA teachers are hired since they may be less qualified and they receive little or no professional training.

According to TSC (2012), it was noted that the current staffing norm for schools ignores the time that teachers need to spend on administrative tasks. Teachers are overwhelmed with increased work besides teaching depending on the circumstances within the school particularly

the ever increasing enrolments in schools. This includes head teachers and deputy head teachers who are overwhelmed by office work besides class teaching. In such a case where teachers (especially head teachers) are overwhelmed by workload as a result of understaffing and increased enrolments, there may be less attention to parents, that is, poor teacher-parent relationship, Munguti (2009). This results in lack of unity in guiding the pupils. On the same note, where the head teacher and the deputy are overwhelmed by high teaching workload, cases of indiscipline are on the rise.

Through the interview schedules, the county staffing officer and the DEO identified increased teacher workloads, poor syllabus coverage, low academic achievements and poor attendance to other school activities, as some of the challenges of understaffing in schools. They however observed that, in as much as the schools faced numerous challenges due to understaffing, the ministry of education (MOE), and the government, by extension, also got a fair share of the challenges in trying to solve the problem. Some of the challenges they identified include; lack of adequate finances for paying teachers' salaries; lack of correct and updated records on teacher shortage; and distribution, and the exponential rise of pupil population in schools. They noted that over the years the government has never been able to recruit and employ enough teachers to meet the staffing needs of the schools. In this regard, the staffing officer, commented: "this has led to increase in the teaching load to the already available teachers." This is therefore a challenge because a teacher who is overwhelmed by heavy workload does very little both to the individual learner for he has many learners to attend to and to the class for he/she has many classes to attend to. The fact of increased workload according the educational offices, consequently lead to other negative influences to teaching and learning in

public schools. In most of the understaffed schools chances are that there is poor syllabus coverage and low academic achievement.

4.8 Findings According to Research Question 4

4.8.1 Responses of Head Teachers on Measures of Improving Staffing in Primary Schools

In order to come up with sound measures of improving staffing in primary schools, head teachers were asked to identify some of the measures that can be taken in order to lessen the problem of understaffing in public primary schools. Table 19 summarizes some of the measures.

Suggestion	YES		NO	
	Freq.	%	Freq.	%
Employment of PTA teachers	18	90.0	2	10.0
Remedial teaching	7	35.0	13	65.5
Selective teaching	7	35.0	13	65.5
Assigning classes without teachers	1	5.0	19	95.0
Employ more teachers	16	80.0	4	20.0
Combining classes	3	15.0	17	85.0
Ensure fair distribution of teachers	11	55.0	9	45.0
Thorough monitoring in cases of corruption	8	40.0	12	60.0
Increase financial motivation for teachers working in ASAL	13	65.0	7	35.0
put new staffing policies in place	7	35.0	13	65.0
Replacement of teachers due to natural attrition	12	60.0	8	40.0
Retention of teachers through the provision of enough resources	9	45.0	11	55.0

Table 19: Head Teachers Responses on Measures that can be taken to Ease Understaffing

From the table, several measures have strongly been supported by majority of the respondents; for most among them indicated: employment of PTA (90%); employment of teachers (80%); increase financial motivation for teachers working in ASAL (65%); replacement of teachers due to natural attrition (60%); ensure fair distribution of teachers (55%); and retention of teachers through the provision of enough resources.

The findings indicated on the table clearly show that the most important remedy for understaffing in public primary schools is to employ more teachers. They concur with what Kaloki (2012) recommended in his study that there is need for more teachers to be employed in order to lower the high pupil-teacher ratio in schools and ease the teachers' work.

This is in accordance to the present staffing needs of the school. According to the literature review, however, the government through the TSC has not been effective in doing so. For instance in the year 2012 the KNBS rated the pupil-teacher ratio at 1:56 (KNBS, 2012). In order to lessen the burden, schools have therefore turned to employment of PTA teachers as has been noted from the data obtained from staffing and DEO offices and in accordance to the strength of response from the table (90%).

4.8.2 Responses of Teachers on Measures of Improving Staffing in Schools

On the same note, teachers also responded to the question of measures of improving staffing. Their responses were analyzed as follows:

Response	Yes		No	
	Freq.	%	Freq.	%
Employing teachers and introducing new staffing policies	121	85.2	21	14.8
Deploying teachers to areas of need not interest	60	42.3	82	57.7
Introducing ways of teacher retention in understaffed areas	76	53.5	66	46.5
Fair distribution of teachers in understaffed schools	133	93.7	9	6.3
Financial motivation in the hardship areas	136	95.8	6	4.2

Table 20: Teachers Responses on Measures of Improving Staffing in Schools

The data for teachers given in the table helps us to conclude that among the most effective measures of improving staffing in schools include financial motivation for teachers in hardship areas (95.8%) which could be a way to retain them in such areas. In addition to this, teachers also felt strongly on the measure of fair distribution of teachers to the schools with regard to the needs on the ground (93.7%) and also employment of more teachers (85.2%) to alleviate the shortage. These findings concur with the study of Aloo et al (2011) who found out that there was disparity in the distribution of teachers across counties and recommended improvement on teacher distribution and retention across schools and staff balancing to enhance equity.

The obligation, however, goes back to the government to consider regular supply of teachers to the schools. In doing so, this can be accompanied by other supporting measures like motivating the teachers working in ASAL areas financially and providing them with enough social amenities. This is because such areas have numerous hardships and teachers avoid them by way of applying for transfers some of which are corrupted. In addition to this, replacing teachers who have exited through natural attrition (e.g. retirement and death) is necessary in order not to leave vacuums in the schools. Moreover, distributing the teachers fairly to the schools is of vital importance with regard to the staffing needs of the schools themselves. This obligation goes to the office of the staffing officer in the sub county during recruitment and deployment of teachers and also monitoring staff balancing per year or per term.

The DEO and the county staffing officer, through the interviews, converge at the following strategies or measures of minimizing understaffing: ensuring fair distribution of teachers in schools; manageable class sizes; creation of safe and supportive environment; hiring and effective replacement of teachers; maintenance of updated records on teacher recruitment;

and exit from service, and the allocation of more funds to the education sector for hiring of teachers.

The suggestions from the teachers, DEO and county staffing officer, are in consonance with suggestions from different research reports as captured by the reviewed literature. Linda and Ducommum (2014) suggested that there should be fair and equal distribution of qualified teachers across districts because of the problem of understaffing- which they call “mal-distribution” of teachers in the schools. In their study, Ariko and Simatwa (2011), pointed out that, teacher retention in certain geographical regions of the country, particularly ASAL areas, is among the most important factors of improving staffing in schools. According to Segun and Olanrewaju (2011), African governments should improve the teaching conditions of the rural schools e.g. by providing housing and suitable accommodation. Again, since many teachers are reluctant to teach in rural areas, rural teachers should be recruited from areas close to where they are to teach. In addition to this, Goertz, Loeb and Wyckoff (2011) suggest that teachers should be motivated in a number of ways including: enhancing financial incentives and support e.g. transport allowances for those working in remote areas.

Moreover, Schaffhaser (2014), recommended the following: transfer reforms; salary increases; good health insurance; good retirement and pension plans; involving teachers in decision making; and adequate administrative support.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to investigate the influence of understaffing of teachers on teaching and learning in public primary schools in Makueni sub-county, Makueni County, Kenya. This chapter summarizes the findings of the study and presents conclusions, recommendations and suggestions for further research.

5.2 Summary of the Findings

The research was guided by the following research questions: What is the distribution of the teaching staff in public primary schools in Makueni sub- County? How does teachers' work load influence teaching and learning in public primary schools in Makueni sub-county? What challenges are caused by understaffing to the teaching-learning process in Makueni sub-county? What can be done to improve staffing in the public primary schools of Makueni sub- County?

The methodology employed in the study included both quantitative and qualitative research methodologies mainly through a cross-sectional survey design. The population of the study included all teachers employed by the Teachers Service Commission (head teachers and assistant teachers in public schools in Makueni District). The study also involved an education officer and the staffing officer in the district. The study adopted the use of simple random sampling for both the schools and the assistant teachers. Automatic inclusion was used for both the head teachers and the heads of department (HODs) in the schools, whereas purposive sampling was used for both the education officer and the staffing officer. The sample size of the

study was 20 head teachers, 20 HODs, 151 teachers, 1 staffing officer and 1 education officer. Data was collected by use of interview guides, questionnaires and document analysis.

Questionnaires were used because they were easier to administer to a large group of people and get information at the same time. The questionnaires used in this study had both open ended and closed ended questions. The interview guides were used to gather qualitative data from sub- County District Education Officer and the staffing officer. The interview guides were chosen because they allow further probing of respondents for more information; alongside supplying information which can easily be triangulated with that in the questionnaire. A document analysis guide was also important for critical examination of public or private recorded information related to the study. The data was collected and analyzed by use of Statistical Package for the Social Sciences (SPSS) computer package.

The findings were presented through descriptive statistics by use of percentages, charts, tables and frequencies. These findings were based on the four major research questions. The first research question sought to find out how teachers were distributed in public primary schools in Makueni Sub County. Through data analysis, the study established that, there was unfair or unequal distribution of teachers among public primary schools; where, three educational zones had a big shortage of teachers and two had a big number of extra teachers in as far as teacher to class ratio was concerned. This means that some schools were highly overstaffed while others suffered acute understaffing. In addition to this the number of classes did not match the number of teachers in the sub county. There were more classes than teachers and these consequently dictated high teaching workloads among teachers.

The study further revealed that, congestion in classes was the greatest effect of high PTR, followed by the poor quality education. The challenge of marking assignments was also identified as a key factor. Other influences of high PTR, as identified by the study were; failure of teachers to give assignments; lack of individual attention to slow learners; and Poor class instruction. The analysis of data also found out that, high pupil to teacher ratio led to increased cases of indiscipline; increased cases of special need children; more work in supervision of duties; more work in the collection of PTA money; more work in keeping of records; more work in taking care of boarding facilities; and more individual attention to slow learners.

The second research question sought to find out the level of the teachers' work load and how it influences the process of teaching and learning in the schools. The study found out that, there was high disparity in the number of lessons per teacher per week; where one teacher has as low as 10 lessons when his/her colleague elsewhere struggles with 40. This can be attributed to the unequal distribution of teachers in schools. The average of 32 lessons per teacher per week suggests that teachers have relatively high teaching workloads, and this compromises the efficiency and effectiveness of the teachers.

The study further found out that, a high percentage of the teachers use non-examinable subject periods to cover the syllabus of examinable subjects. A big number of them said that heavy work load make teachers not to attend classes at all. Others pointed out that marking of assignments would take longer time than usual. Still on the same issue, the study revealed that, some teachers didn't give assignments for all lesson periods for all classes; some gave priority to examinable subjects; some would combine classes; some didn't prepare all schemes of work; and others didn't prepare all lessons for all classes.

For the head teachers, the study established that, a big percentage of them divided their attention between office work and attention to visitors; a few indicated that office work and visitors to office were left unattended for some time, as they attend their lessons; and a small percentage said that office work and visitors to office were delayed until all classes were over. This meant that, in the event of a collision between class work and office work, class work was mostly forgone in an attempt to meet the requirements of office work.

The third research question sought to find out the challenges brought about by understaffing in the teaching learning process in the schools. The study revealed that, majority of the teachers agreed that understaffing leads to poor subject performance and makes teachers to miss out on some classes, hence under-teaching due to heavy workloads. They also pointed out that understaffing resulted to poor quality of teaching.

The study also revealed that, there were many challenges faced by schools as a result of understaffing. Some of the challenges identified include: heavy teaching workload; excessive assignments; fatigue; overworking without motivation; excessive learner needs to handle; double roles and difficult class control. From the study, understaffing was identified as the most determining cause of high workloads among teachers, followed by poor or un-proportional distribution of teachers to the schools.

The fourth research question investigated on the measures that can be taken to ease the problem of understaffing in the schools. From the study it was noted that most schools adopted employment of PTA teachers. The respondents, however, pointed out that there was need for the government through the ministry of education to employ more teachers; motivate teachers in

ASAL areas financially so as not to look for transfers; and distribute teachers fairly in the schools with regard to the need.

5.3 Conclusions

Generally, from the foregoing discussions and the evidences provided by the findings, the following conclusions were made:

With reference to the first research question on distribution of teachers, the findings revealed that there was indeed understaffing of teachers in public primary schools in Makueni Sub County. The response got from the sample of head teachers from the schools was reliable in that half of them agreed that there was understaffing. This was confirmed by data got from the document analysis guide from the educational offices about staff returns, enrolment of pupils and number of classes compared to the number of teachers.

In addition to this the data got from the offices of the staffing officer and the DEO of the sub county confirmed that there is understaffing in the schools. The staffing officer admitted that both understaffing and overstaffing were evident in the schools with regard to the geographical locations of the schools. At the same time she claimed that the supply of teachers by the government, whether by employment or for replacement was not sufficient enough to fill the gaps existing in the schools. The DEO on his part quoted poor distribution of the teachers in the schools which could be attributed to the genuine reasons of the teachers' transfers or corrupted cases.

The findings also revealed that there was high pupil-teacher ratio in public primary schools in Makueni County. The high ratio could be attributed to unfair distribution of teachers to schools in urban and ASAL areas. The unfair distribution therefore resulted to high workloads

among teachers, and this adversely affected teaching and learning; as well as the performance of administrative duties.

There was a high disparity between the number of pupils in a given school compared to the number of teachers in that particular school. According to the staffing officer of the county, most schools had high pupil-teacher ratios, with some having as high 61:1.

The study therefore concludes that understaffing in public primary schools in Makueni Sub County was basically attributed to insufficient supply of teachers to the schools; poor distribution of the already available teachers; and high pupil-teacher ratios. This has consequently affected teaching and learning as well as administrative duties.

According to the second research question on the influence of work load on teaching and learning, the findings revealed that there was on average high teaching workload among the teachers in the schools. It was noted that the minimum number of lessons for some teachers in some schools was 10 and the maximum for others was 40. This was according to the level of staffing in the schools. The range between 10 and 40 is too large and it shows great variations in the teaching workloads for teachers in the schools. The implication of these variations is that some teachers are over utilized while others are underutilized and as a result teaching and learning are influenced adversely in the schools. The average number of lessons per teacher per week was considerably high (32). Besides teachers had extra curriculum duties, administrative duties to perform and professional records to prepare.

When the teachers were asked on how heavy workload affects teaching and learning, the results were quite adverse. For instance, a great percentage of the teachers said heavy workload made them not to attend all classes; not to prepare for all lessons and it would also force them to

combine classes. This gives a very negative implication to instruction work or delivery in class, pupils' performance and the quality of education given. The findings therefore showed that due to heavy workload teachers were unable to effectively prepare for lessons, deliver knowledge to learners, and adequately assess them. Co-curricular activities have been affected as well because teachers are very much occupied, and by the end of the day, they are thoroughly fatigued.

With reference to the third research question, the study concluded that there were numerous challenges that came along with understaffing on teaching and learning. For instance, the teachers' responses showed that there was ineffectiveness in curriculum implementation due to understaffing. They mentioned heavy workload in understaffed schools which had become a threat to teaching and learning activities. Since the teachers claimed to be overworked, their delivery in class was negatively affected. They also taught examinable subjects only. It was also concluded that there was poor quality education in the face of understaffing. Both assistant teachers and head teachers admitted that there was poor class attendance due to additional duties brought about by high pupil-teacher ratio besides their heavy workload. According to their responses, high PTR brought other underlying challenges like more work in administrative duties; increased discipline cases to deal with and increased special needs of children. The study also concluded that due to understaffing and high PTR, there were challenges of large class sizes. The teachers admitted that it was more difficult to teach large class sizes than small class sizes. They said large class sizes encourages difficulties in class control and poor class instruction. Generally, the study found out that teaching and learning in public schools was and is influenced negatively, particularly where the schools are understaffed. In this regard, the most affected is the teacher and the learner as has been shown in the findings.

According to the fourth research question, the study concluded that there was need to improve or provide a remedy to the state of understaffing in public primary schools. In their suggestions, teachers and head teachers gave priority to the supply of more teachers through employment to the schools; ensuring fair distribution of the teachers; and replacement of the teachers who have already exited through natural attrition. The study also concluded that the office of the staffing officer should be conducting staff balancing exercise annually with regard to the staffing needs of the schools and also to keep under check in case of any corrupt deals which may have taken place in the course of the year. To do this, it is the government's obligation through the Minister of Education (MOE) to give direction and guidelines towards regulating and balancing of high pupil-teacher ratio and reduction of understaffing so as to reduce inefficiency in the teaching and learning process. However, the task of responding to the teacher can also be a collective responsibility by involving the concerned parties, including the TSC, the KNUT and also teachers themselves in policy formulation. KNUT itself cautions the MOE that the needs of teachers are currently not well provided for. This lack of the provision has affected the quality of education in many ways such as; the current teachers have heavy workload; they are ineffective which leads to poor delivery of service; and the syllabus in most subjects is not covered, among other effects (KNUT, 2015). EFA (2015) also advises that teachers should be deployed to the areas of need and derive strategies to retain them.

5.4 Recommendations

In the view of the research findings, the study recommends the following:

The government should employ more teachers to alleviate the situation by reducing the workload of the existing teachers and improve the quality of teaching and learning. This can be

done through regular recruitment and deployment within a specified period of time to arrest the staff gap in the schools. It was noted from the literature review that even the existing staffing policies have not been adhered to per se and have not proven effective of solving the problem. The study therefore, strongly recommends review and regulation of the staffing policies besides the recruitment and deployment of teachers.

However, in cases where the government fails in its obligation of providing adequate number of teachers to schools, the parents, sponsors and well-wishers should chip in and employ PTA teachers. The boards of management in schools in cooperation with parents should also take the initiative to ensure that teaching and learning take place by employing the needed teachers to close the gap as they wait the TSC to respond to the need.

The study also recommends that the TSC through staffing officers in the counties should ensure fair distribution of teachers to all schools in all the regions of the country. From the findings, 55% of the teachers suggested that teachers should be distributed to schools fairly and with regard to the staffing need. In order to avoid cases of both understaffed and overstaffed schools, it is necessary for the government to ensure fair and equal distribution of teachers to public primary schools. By doing so, the MOE would be avoiding cases of some teachers being over utilized and others being underutilized. It was revealed from the findings of this study that teachers in understaffed schools are over utilized while those in overstaffed schools are underutilized. In addition to this, fair distribution and staff balancing would contribute to fairness in the provision of quality education for all children in all the schools.

The study also recommends that there should be increase financial motivation for teachers working in Arid and Semi-Arid Locations (ASAL). This can be done through joint efforts. First

by the teachers' employer (TSC) and secondly by the boards of management in the schools. It was revealed from the findings of this study that more than fifty percent of the selected teachers agreed to this as measure of improving staffing in ASAL. This is because teachers in these areas undergo a lot of hardships, unlike their colleagues in urban areas. Among the financial allowances that should be increased include hardship allowances e.g. because of extreme weather conditions, medical allowance, travelling and house allowances. By doing so, most teachers would desire to work in such areas to enjoy such privileges. However, this can be done if the government allocates more funds to the MOE in the budget.

Related to this is the provision of enough social services to the hardship areas. According to Ariko and Simatwa (2011), providing social services in ASAL is one of the most effective ways for retention of teachers in such areas as was seen in the literature review. Among these government services include better housing, hospitals, water, electricity and roads. By doing so, teachers would not look for unnecessary transfers to the urban areas. It would also reduce corruption cases and the rate of attrition through death.

In addition to this, the study recommends timely replacement of teachers who have exited the teaching profession for various reasons. It was revealed in the findings of this study that sixty percentage of the selected respondents agreed to this item. There are those who have exited the profession through death and retirement. There are others who join other professions; others may opt to do business and others may be employed in private schools for better pay. All these teachers leave a gap in the teaching and learning activities of the school. The more that gap stays and widens, the more the consequences in the provision of quality education to the learners.

Therefore, there should be proper communication network and immediate response when such cases happen in the schools.

5.5 Suggestions for Further Research

Based on the findings of the study the researcher makes the following suggestions for further research:

- i) A research on the factors influencing unfair distribution of teachers in public primary schools in Kenya.
- ii) A research on how high Pupil-Teacher Ratio affects the social interaction between the teacher and the learners

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APPENDIX I: LETTER TO THE RESPONDENT

David Mangendi
Catholic University of Eastern Africa
Department of Post Graduate Studies in Education
P.o Box 62157- 00200
Nairobi, Kenya.

To the Respondent,

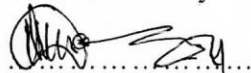
Dear Sir/Madam,

RE: RESEARCH STUDY

I'm David Mangendi, a post graduate student at Catholic University of Eastern Africa carrying out a research study in Makueni Sub County. The topic of my study is *Influence of Understaffing of teachers on Teaching and Learning in Public Primary Schools in Makueni Sub County*. I therefore request you kindly to respond honestly to the questions in this research.

Do not include your names or your school. Be assured from the start that your identity will be protected and there will be no victimization whatsoever. The information collected from this research will be treated with confidentiality and will be used for the study only.

Yours Faithfully



David Mangendi.

APPENDIX II

QUESTIONNAIRE FOR HEAD TEACHERS OF PUBLIC PRIMARY SCHOOLS

LETTER OF CONSENT TO THE RESPONDENT

David Mangendi

Catholic University of Eastern Africa

Department of Post Graduate Studies in Education

P.O Box 62157- 00200

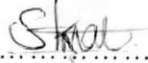
Nairobi, Kenya

To the Respondent,

Dear Sir/Madam

RE: DATA (INFORMATION) FOR RESEARCH STUDY

I'm David Mangendi, a post graduate student at Catholic University of Eastern Africa carrying out a research study in Makueni Sub County. The topic of my study is *Influence of Understaffing of teachers on Teaching and Learning in Public Primary Schools in Makueni Sub County*. I therefore request for your acceptance to be a respondent to the questionnaire attached. Do not write your name in this consent. Please be assured from the start that your identity will be protected and there will be no victimization whatsoever. The information collected from this research will be treated with confidentiality and will be used for the study only. If you accept this request, sign in the space provided below.

.....


Respondent.

Section A: Demographic Data

1. Please indicate your age category:

Less than 25 years () 26 – 34 years () 35 – 44 years ()

45 – 54 years () 55 – 60 years ()

2. Please indicate your gender a) Male () b) Female ()

3. What is your highest professional qualification – please tick (√)

Diploma () B.Ed.() MED () PHD ()

Others please specify

4. What other responsibility or responsibilities do you have in the school apart from teaching?

(i)..... (ii)..... (iii).....

General Information of Your School

5. Location of your school. Tick (√)where appropriate. ASAL (Arid and Semi-Arid Location) ()

Rural schools (away from towns) () town schools ()

Your own teaching workload (number of lessons per week).....

Population of your school (number of pupils).....

Number of TSC teachers..... Number of classes.....

Section B: Influence of Understaffing through Teacher Distribution on Teaching and Learning

6. The TSC staffing policy is 1 teacher per class. Based on this staffing policy, is your school understaffed? If so, by at least how many teachers?

7. What is the average number of pupils per class for all the classes in your school? Tick √ the applicable one.

10-20 () 30-40 () 50-60 () 70 and above ()
 20-30 () 40-50 () 60-70 ()

8. What is your opinion on the above number of pupils per class in relation to teaching and learning?

Very many () no opinion () few ()
 Many () not many ()

9. What happens to the head teacher's administrative work if the PTR of the school is high?

Tick \surd **all** the possible to you.

His office work increases () He will have more parents and visitors to attend ()
 Indiscipline cases to deal with increase () More pupils mean more classes ()

10. Do you think the total number of pupils in the school is manageable by the number of teachers in the school? Tick \surd as applies to you.

Effectively manageable () No opinion () Not manageable ()
 Manageable () Partially manageable ()

11. How does a high number of pupils in a school versus few teachers influence teaching and learning? Tick \surd **all** the ones possible.

Class control becomes difficult () Congestion in class ()

Time management is sometimes affected ()

The teacher may not give enough assignments ()

A great challenge in marking of assignments ()

The teacher may not have time for individual attention e.g. to slow learners' poor performance ()

Class instruction not effectively done ()

Section C: Influence of Understaffing on Teaching Work Load and Pupils' performance

12. According to your observation, how are the following teaching and learning activities done in the face of understaffing and work load? Tick \checkmark your observation for each.

Activity	done Excellently	Fairly done	No opinion	Poorly done	Not done at all
Lesson planning for all lesson periods for all subjects for all classes					
Schemes of work for all subjects for all classes					
Class attendance					
none examinable subjects					
Games and sports					
Clubs and societies					

13. Does your office work sometimes collide with the time scheduled for class attendance?

Yes () No ()

14. What happens to office work in the event of this collision? Tick \checkmark the applicable for you.

Office work is not done at all and visitors to office not attended that day ()

Office work is done partially and visitors to office attended partially ()

Office work and visitors to office are delayed until all classes are over ()

Office work and visitors to office remain unattended for some time ()

15. What do you do to your class attendance when faced with too much and urgent office work? Tick \checkmark the applicable for you.

Always skip classes () Sometimes skip classes () Attends classes partially ()

Assigns work to the classes () Arranges for remedial ()

16. Do you think shortage of teachers in schools can delay finishing of the syllabus?

Yes () No () undecided ()

17. Do you think lack of enough teachers can increase the number of indiscipline cases in the school? Yes () No () undecided ()

13 As the head teacher is your work load heavy? Yes () No (). What is the average teaching work load for your teachers? tick \surd as appropriate

10-15 () 15-20 () 20-25 () 25-30 () 30-35 () 35-40 ()
40-50 ()

18. According to your own observation does your teaching staff have heavy teaching work load? Yes () No ()

19. Which of the following is the major cause of heavy teaching work load in some schools? Tick \surd your opinion.

Inclusion of non-examinable subjects in the syllabus ()

Failure to staff the schools adequately (understaffing) ()

poor or unproportional distribution of the teachers to the schools ()

20. From your experience of heading schools, does the teachers' heavy teaching work load influence pupils' performance negatively?

Very much influence () Much influence () No opinion ()

Partially influences () No influence at all ()

Section D: Challenges Brought about by Understaffing

21. What challenges are faced by understaffed schools according to you? Tick \surd **all** the possible answers.

- Increase in the teachers work load () Increase of indiscipline cases ()
- Teachers' fatigue () Poor performance ()
- Increased administrative work ()
- Lesson periods going without teachers ()
- None- examinable subjects not taught where priority is given to examinable ()
- Poor class instruction where classes are combined ()
- Office work collides with class attendance because of understaffing ()
- Syllabus not covered because of understaffing ()
- More work in keeping of records in case of high PTR ()

SECTION E: Measures of Improving Staffing in Public Primary Schools

22. What measures have you taken to deal with shortages of teachers in your school?

Tick \surd the ones that applies to your school.

- Employment of PTA teachers () Assigning classes without teachers ()
- ()
- Remedial teaching () Combining classes ()
- Selective teaching/giving priority to examinable subjects ()

23. What is your advice to the government on ways of improving staffing in our schools?

Tick \surd **all** possible answers according to you.

- Employ more teachers () Distribute teachers fairly ()
- Thorough monitoring of transfers in case of corruption ()
- Increase financial motivation to teachers to work in ASAL areas ()
- Put new staffing policies in place ()

Replacement of teachers following natural attrition ()

Retention of teachers by provision of enough facilities in ASAL areas ()

Thank you for cooperation.

APPENDIX III

**QUESTIONNAIRE FOR TSC ASSISTANT (ORDINARY) TEACHERS IN PUBLIC
PRIMARY SCHOOLS**

LETTER OF CONSENT TO THE RESPONDENT

David Mangendi

Catholic University of Eastern Africa

Department of Post Graduate Studies in Education

P.O Box 62157- 00200

Nairobi, Kenya.

To the Respondent,

Dear Sir/Madam,

RE: DATA (INFORMATION) FOR RESEARCH STUDY

I'm David Mangendi, a post graduate student at Catholic University of Eastern Africa carrying out a research study in Makueni Sub County. The topic of my study is *Influence of Understaffing of teachers on Teaching and Learning in Public Primary Schools in Makueni Sub County*. I therefore request for your acceptance to be a respondent to the questionnaire attached. Do not write your name in this consent. Please be assured from the start that your identity will be protected and there will be no victimization whatsoever. The information collected from this research will be treated with confidentiality and will be used for the study only. If you accept this request, sign in the space provided below.

.....
.

Respondent.

Section A: Demographic Data

1. Please indicate \surd your age bracket
 18-25 () 25-30 () 30-40 () 40-50 () 50-60 ()
2. Gender: male () female ()
3. Highest academic qualification: P1 () Diploma () Degree () MED ()
 Other specify.....
4. Length of stay in this school..... Position/responsibility.....
5. Your total teaching workload (number of lessons per week including non-examinable subjects).....

Section B: Influence of Understaffing on Teaching and Learning

6. What happens in teaching and learning in schools which are understaffed? Tick \surd **all** possible answers according to you?
 Poor performance ()
 Some classes are not attended and are simply assigned ()
 Under teaching due to heavy work load ()
 Poor quality education ()
7. Tick \surd how much the following influences pupils’ performance: understaffing; heavy teaching work load; and high PTR (very many pupils per teacher).

Type of Influence	Very Much	Much	No Opinion	Partially	No Influence
Understaffing					
Heavy Teaching Workload					
High PTR					

8. Which of the following contributes to poor quality education in schools? Tick one
 Understaffed schools () adequately staffed schools () overstaffed schools ()
9. Which of the following do you think engages learners in enough teaching and learning activities?
 Understaffed schools () overstaffed schools () adequately staffed schools ()
10. The number of teachers in a school can be underutilized (3), efficiently utilized (2) or over utilized (1) with regard to their work load. Indicate the numbers 3, 2 or 1 to show which description is applicable to the following categories of schools.

School category	Underutilized (indicate 3)	Efficiently utilized (indicate 2)	Overutilized (indicate 1)
Overstaffed			
Adequately staffed			
Understaffed			

11. What happens to teaching and learning in schools with high PTR (high number of pupils per teacher) where classes may be over 50 pupils per class? Tick \sqrt all possible answers.
- Congestion in classes () class control becomes a challenge ()
- Poor class instruction () poor quality education ()
- Marking assignments becomes a challenge ()
- Teachers may not give enough assignments ()
- Individual attention to slow learners becomes rare ()

12. Tick \checkmark where appropriate for you as shown.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
High PTR leads to large class size and poor instruction in teaching and learning					
It is easier to teach a large class size than a small class size					
It is the approach not the number of teachers that determines effective teaching and learning					
It is the number of teachers who have shared work not the class size that determines effective teaching and learning					

Section C: Influence of Understaffing on Teaching Workload

13. Does understaffing increase the teachers' teaching work load? Yes () No ()

14. What happens to the teachers instruction work in schools where teachers are overwhelmed by heavy work load due to understaffing? Tick \checkmark all the possible answers according to you?

Heavy work load may dictate teachers not to attend all lesson periods ()

Teachers do not prepare all lesson plans for all lesson periods for all subjects for all classes ()

Teachers do not prepare all schemes of work ()

Marking assignments will take more time ()

Heavy work load dictates teachers to combine some classes ()

Teachers do not give assignments for all lesson periods for all subjects for all classes ()

Due to heavy work load teachers give priority to examinable subjects ()

Teachers use lesson periods for non-examinable subjects to push the syllabus for examinable subjects

Section D: Challenges of Understaffing on Teaching and Learning

15. Given the opportunity, which of the following would you complain of as the challenges encountered by teachers in understaffed schools? Tick \sqrt all the appropriate according to you.

Heavy teaching work load () Being overworked with no motivation ()

Fatigue in the evening () Double roles e.g. teaching, nursing children ()

Difficulties in class control () Excessive assignments to mark ()

Excessive learners' needs to handle ()

16. What challenges come along with additional duties of high PTR to the available teachers in a school? Tick \sqrt all possible answers

Dealing with increased number of indiscipline cases ()

Dealing with increased cases of special children ()

More individual attention to slow learners ()

More work in keeping of records ()

More work in supervision of duties, e.g. extracurricular activities ()

More work in collection of PTA money and other levies e.g. exam money ()

More work in care taking of boarding facilities, e.g. hostels, stores, cooking, for boarding primary schools. ()

Section E: Measures of Improving Staffing in Schools

17. Rank the following measures of improving staffing from 5-1; where 5 is the best in importance and 1 is the least.

The government should employ more teachers and introduce new staffing policies ()

Teachers should be deployed to areas of need not necessarily areas of interest ()

The government should come up with ways of teacher retention in the profession and in the understaffed areas ()

Teachers should be distributed fairly in schools according to the needs in place ()

Teachers should be adequately motivated financially to encourage others who may be deployed in the same zones. ()

APPENDIX IV

QUESTIONNAIRE FOR HODs (TEACHERS IN CHARGE OF CURRICULUM) IN

PUBLIC PRIMARY SCHOOLS

LETTER OF CONSENT TO THE RESPONDENT

David Mangendi

Catholic University of Eastern Africa

Department of Post Graduate Studies in Education

P.O Box 62157- 00200

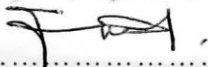
Nairobi, Kenya.

To the Respondent,

Dear Sir/Madam,

RE: DATA (INFORMATION) FOR RESEARCH STUDY

I'm David Mangendi, a post graduate student at Catholic University of Eastern Africa carrying out a research study in Makueni Sub County. The topic of my study is *Influence of Understaffing of teachers on Teaching and Learning in Public Primary Schools in Makueni Sub County*. I therefore request for your acceptance to be a respondent to the questionnaire attached. Do not write your name in this consent. Please be assured from the start that your identity will be protected and there will be no victimization whatsoever. The information collected from this research will be treated with confidentiality and will be used for the study only. If you accept this request, sign in the space provided below.

.....


Respondent.

Section A: Demographic Data

1. Please indicate \surd your age bracket
 18-25 () 25-30 () 30-40 () 40-50 () 50-60 ()
2. Gender: male () female ()
3. Highest academic qualification: P1 () Diploma () Degree () MED ()
 Other specify.....
4. Length of stay in this school.....
 Position/responsibility.....
5. Your total teaching workload (number of lessons per week including non-examinable subjects).....

Section B: Influence of Understaffing on Teaching and Learning

6. What happens to the syllabus in schools where teachers have heavy work load due to understaffing? Tick \surd one as your opinion
 Hardly covered () Partially Covered () don't know ()
 almost covered () Fully covered ()
7. To what extend is the syllabus covered in your school? Tick \surd one as applicable
 Fully () no opinion () hardly partially ()
 Almost () partially ()
8. At what time interval do teachers present their records of work covered in the face of work load and level of staffing in the school?
 Weekly () Quarterly (3 months) () Never ()
 Monthly () Yearly ()

9. Are the following extra curriculum activities done in your school? Games and sports; clubs and societies; educational trips. Tick \surd where applicable to you.

Regularly done () No opinion () Never ()
 Almost regularly () partially done ()

Instructions: In the following statements, tick \surd either true or untrue according to your own experience and expectation in teaching and learning.

10. Understaffing in schools forces the available teachers to concentrate more on examinable subjects than on non-examinable subjects
11. Where schools are understaffed, the available teachers use lesson periods for non-examinable subjects to do revision and mark assignments of examinable subjects
12. Where schools are understaffed non-examinable subjects are hardly taught

Section C: Influence of Understaffing on Teaching Workload

Instructions: Rank the following subjects using 1-9, where 1= is the one you would give first priority, 2= the second, and 9 being the last in teaching and learning.

Subject	English	Creative Art	SST/ CRE	Kiswahili	Life Skills	Science	Physical Educ.	Math's	PPI
Rank									

Instructions: In the following statements, tick \surd either true or untrue according to your own experience and expectation in teaching and learning.

13. In schools where teachers are overwhelmed by workload due to understaffing, teachers use lesson periods for non-examinable subjects to cover the syllabus for examinable subjects ()

14. Teachers don't cover the syllabus for non-examinable subjects because of heavy workload caused by understaffing ()
15. Teachers don't prepare lesson plans for non-examinable subjects because they have numerous lesson plans for examinable subjects to prepare caused by heavy workload because of understaffing ()

Section D: Challenges of Understaffing on Teaching on Teaching and Learning

Instructions: The following are challenges why non-examinable subjects are probably not taught in schools. Tick \checkmark the best reason or reasons according to your view and experience:

16. Teachers are not trained in the subjects and so they need special training ()
17. There are no enough teachers and the available teachers have heavy workload ()
18. The subjects are not examinable ()
19. The subjects are not interesting to teach ()
20. The subjects have no value to the pupils ()

Section E: Measures of Improving Staffing in Schools

Instructions: Rank the following measures of improving staffing from 5-1; where 5 is the best in importance and 1 is the least.

- The government should employ more teachers and introduce new staffing policies ()
- Teachers should be deployed to areas of need not necessarily areas of interest ()
- The government should introduce teacher retention in the understaffed areas ()
- Teachers should be distributed fairly in schools according to the needs in place ()
- Teachers should be adequately motivated financially to encourage others who may be deployed in the same zones. ()

APPENDIX V

INTERVIEW SCHEDULE FOR THE STAFFING OFFICER IN THE SUB COUNTY

Section A: Demographic Data

- 1. Please indicate \surd your age bracket
 20-30 () 30-35 () 35-40 () 40-5 () 50-60 ()
- 2. Gender.....
- 3. Length of service in the sub county.....
- 4. Number of divisions under you..... Number of zones.....
- 5. Total number of public schools in the sub county.....
- 6. Total number of TSC teachers in the sub county.....

Section B: The State of Understaffing in the Sub County

- 7. Is your district/sub county understaffed? If so, by at least how many teachers?

- 8. At least how many teachers do you receive in every new recruitment and deployment of
 teachers in your district/division? Indicate the approximate bracket (e.g.15-20)

- 9. When do we say a school is understaffed?

- 10. What could be reasons behind some schools being understaffed and others overstaffed
 despite your efforts to balance the staffing in the schools?

.....
.....
.....

11. According to your observation of monthly staff returns from schools, what is your comment on the staffing levels of the following areas:

ASAL (Arid and Semi-Arid Locations) schools.....

Rural schools (accessible by roads).....

Town schools.....

12. With regard to the present need of teachers in your district/sub county do you think the TSC frequency of recruitment and replacement of teachers is fair and meets the need of the schools..... Explain.....

13. What are some of the government policies considered in the staffing of schools?

.....
.....
.....

14. According to your experience and observation do you think the teachers are distributed fairly in the schools?Explain.....

.....

15. Do you think high PTR (high number of pupils per teacher) in schools can influence teaching and learning.....

Explain.....
.....
.....

Section C: Influence of understaffing on Teaching Workload

16. What influences do you think heavy work load has in understaffed schools?.....
.....
.....
.....
.....

Section D: Challenges of Understaffing in Schools

17. What challenges does understaffing bring to teaching and learning in schools?
.....
.....
.....
.....

18. What challenges does the government face in curbing the problem of understaffing?
.....
.....
.....
.....

Section E: Measures of Improving Staffing in Schools

19. What can be done by the government /TSC to improve staffing in public primary schools?.....

.....

.....

.....

Thank you for your cooperation.

APPENDIX VI

INTERVIEW SCHEDULE FOR THE DEO IN THE SUB COUNTY

Section A: Demographic Data

1. Please indicate \surd your age bracket
20-30 () 30-35 () 35-40 () 40-5 () 50-60 ()
2. Gender.....
3. Length of service in the sub sub county.....
4. Number of divisions under you..... Number of zones.....
5. Total number of public schools in the sub county.....
6. Total number of TSC teachers in the sub county.....

Section B: Policies Governing the Staffing of Schools

7. What are some of the policies or regulations of the MOE on staffing of schools?.....
.....
.....
.....
8. What is the current specified ratio (that is pupil-teacher ratio or the number of pupils versus the number of teachers in a school) that is recommended in schools by the ministry?
.....
9. What are some of the reasons why this ratio should be maintained?
.....

.....
.....

10. Does the number of classes in a school determine the number of teachers that should be provided?

Explain.....
.....
.....

11. Do you have a role in the recruitment of teachers in your county?

explain.....
.....
.....

Section C: Influence of Understaffing on Teaching Workload

12. According to the data of the number of teachers you obtain from schools, does it affect teaching workload particularly in understaffed schools?

Explain.....
.....

13. According to your observation, in what ways does understaffing in schools influence quality assurance and standards in education?

Section D: Challenges of Understaffing

14. What challenges is the government through the MOE facing in solving the problem of understaffing in

schools?.....

.....
.....

15. Through your inspection and supervision of education in schools, what challenges do understaffed schools face in teaching and learning?

.....
.....
.....
.....

Section E: Measures to Improve Staffing

16. Most understaffed schools tend to be those in arid and semi-arid areas. What measures or directives should the ministry put in place to ensure adequate staffing of teachers in those areas?

.....
.....
.....

17. What advices would you give to the government in improving staffing of schools?

.....
.....
.....

Thank you for cooperation.

APPENDIX VII

DOCUMENT ANALYSIS GUIDE

Section A: School Data

1. Type of School: ASAL () Rural () Town ()
2. Size of the School: One stream () Two Streams ()
Three Streams ()
3. School Population: Number of Pupils: Number of
TSC Teachers:

Section B: Observation Notes

Document	Information to be Analyzed	Remarks
Staff Register or File	- Number of TSC teachers - Number of PTA teachers	
Class Registers	- Number of pupils per class	
Block Timetable (Board or Manila Paper)	- Number of subjects timetabled - Number of lesson periods per subject - Total number of lesson periods per week per teacher	
Staff Monthly Return Form	- Staffing of teachers in primary schools per zone in a given year and month	
Enrolment Monthly Return Form	- Enrolment of pupils in primary schools per zone in a given year and month	

APPENDIX VIII RELIABILITY TESTING

Output for Head Teachers Test-Retest

Correlations

		First test	Second test
First test	Pearson Correlation	1	.900 [*]
	Sig. (2-tailed)		.037
	N	5	5
Second test	Pearson Correlation	.900 [*]	1
	Sig. (2-tailed)	.037	
	N	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

Output for Heads of Curriculum Test-Retest

Correlations

		first test	second test
first test	Pearson Correlation	1	.875
	Sig. (2-tailed)		.052
	N	5	5
second test	Pearson Correlation	.875	1
	Sig. (2-tailed)	.052	
	N	5	5

Output for Teachers Test-Retest


Correlations

		first test	second test
first test	Pearson Correlation	1	.926**
	Sig. (2-tailed)		.000
	N	20	20
second test	Pearson Correlation	.926**	1
	Sig. (2-tailed)	.000	
	N	20	20

** . Correlation is significant at the 0.01 level (2-tailed).

APPENDIX IX

COVER LETTER FROM THE CATHOLIC UNIVERSITY OF EASTERN AFRICA



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
Faculty of Education
 Department of Curriculum Studies and Instruction

Date: 4th February 2016

TO WHOM IT MAY CONCERN

Ref: David Mangendi MED/1019367

I am writing to introduce to you **David Mangendi** who is a final year Master of Education Degree student at the Catholic University of Eastern Africa, Nairobi - Kenya; and to request you to assist him to accomplish his academic research requirements.

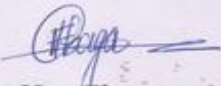
David's Master of Education Degree specialization is Curriculum Studies and Instruction. He has completed all course work requirements for this programme. However, every student in the programme is required to conduct research and write a report/thesis submitted during the final years of studies.

Accordingly, David's research topic has been approved. He will conduct research on the following topic:


“Influence of Understaffing of Teachers on Teaching and Learning in Public Primary Schools in Makueni Sub-County, Makueni County, Kenya”

Thanking you in advance for any assistance you give to David.


Sincerely,



Mrs. Florence Ateka
Head of Department
Curriculum Studies and Instruction



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA (CUEA) P.O. BOX 62157 00200 Nairobi - KENYA
 Tel: 020-2525811-5, 8990023-4, Fax: 8991084, Email: pgs@cuea.edu, Website: www.cuea.edu
 Founded in 1984 by ANECRA (Association of the Member Episcopal Conference in Eastern Africa)



APPENDIX X
PERMIT CERTIFICATE

THIS IS TO CERTIFY THAT:
MR. DAVID WAMBUA MANGENDI
of CATHOLIC UNIVERSITY OF EASTERN AFRICA, 2188-90100 MACHAKOS, has
been permitted to conduct research in
Machakos County
on the topic: INFLUENCE OF UNDERSTAFFING OF TEACHERS ON TEACHING AND LEARNING IN PUBLIC PRIMARY SCHOOLS IN MAKUENI SUB COUNTY MAKUENI COUNTY KENYA
for the period ending:
16th March, 2017

Permit No : NACOSTI/P/16/40904/9607
Date Of Issue : 17th March, 2016
Fee Received :Ksh 1,000




Applicant's Signature

Director General
National Commission for Science, Technology & Innovation

APPENDIX XI

RESEARCH AUTHORIZATION LETTER FROM NACOSTI



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/16/40904/9607**

Date:
17th March, 2016


David Wambua Mangendi
Catholic University of Eastern Africa
P.O. Box 62157-00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Influence of understaffing of teachers on teaching and learning in public primary schools in Makueni Sub County Makueni County Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Makueni County** for a period ending **16th March, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Makueni County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.




DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Makueni County.

The County Director of Education
Makueni County.




National Commission for Science, Technology and Innovation is ISO 9001:2008 Certified

APPENDIX XII

RESEARCH AUTHORIZATION LETTER FROM THE COUNTY DIRECTOR OF
EDUCATION MAKUENI

REPUBLIC OF KENYA

Tel: 044-33318
FAX: @gmail.com
Email: cdemakueni@gmail.com
When replying please quote



County Director of
Education Office,
P.O. Box 41,
MAKUENI.

MINISTRY OF EDUCATION
STATE DEPARTMENT OF EDUCATION

MKN/C/ED /5/33 / VOL 1/117 30th March, 2016

David Wambua Mangendi
Catholic University of Eastern Africa
P.O Box 62 157-00200
NAIROBI


TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION - DAVID WAMBUA MANGENDI


This is to confirm to you that David Wambua Mangendi , a student at Catholic University of Eastern Africa, has been allowed to carry out research as per letter dated 7th March 2016 ref. no NACOSTI/P/16/40904/9607 on 'influence of understaffing of teachers on teaching and learning in public primary schools in Makueni Sub-county , Makueni County ".Period ending 16th March, 2017.

Kindly give ^{her} all the assistance required.

Kimani G.N



Kimani G.N
Ag. County Director of Education
Makueni.

ISO 9001:2008 CERTIFIED 

APPENDIX XIII

RESEARCH AUTHORIZATION LETTER FROM THE COUNTY COMMISSIONER
MAKUENI

THE PRESIDENCY

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegram:
Telephone:
Fax:
Email: makuenicc@yahoo.com

COUNTY COMMISSIONER
MAKUENI COUNTY
P.O. Box 1-90300
MAKUENI

Ref: MKN/CC/ADM.6/1 VOL.I/129

Date: 30th March, 2016

David Wambua Mangendi
Catholic University of Eastern Africa
P.O.Box 62157-00200
NAIROBI

RE: RESEARCH AUTHORIZATION

Reference is made to Director General/Chief Executive Officer National Commission for Science Technology and Innovation letter Ref: NACOSTI/P/16/40904/9607 dated 17th March, 2016.

You are hereby authorized to undertake research on *"Influence of understaffing of teachers on teaching and learning in Public primary schools in Makueni Sub County Makueni County, Kenya"* for a period ending 16th March, 2017.

By a copy of this letter the Deputy County Commissioner Makueni Sub- County is requested to accord you the necessary assistance for the success of your research work.

AGNES N. KEEMPUA
FOR: COUNTY COMMISSIONER
MAKUENI

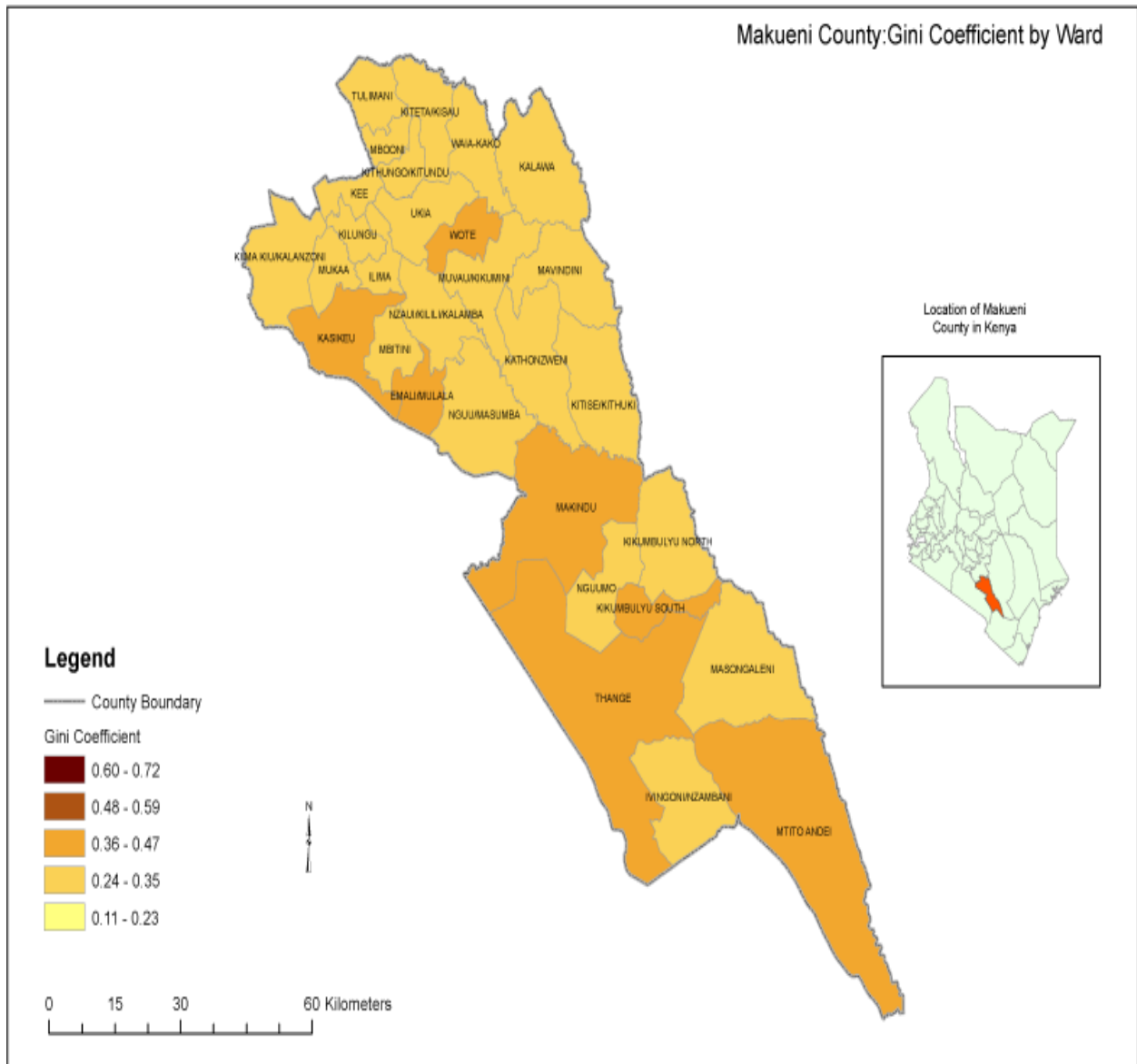
Cc

County Director of Education
MAKUENI COUNTY

Deputy County Commissioner
MAKUENI SUB-COUNTY

APPENDIX XIV

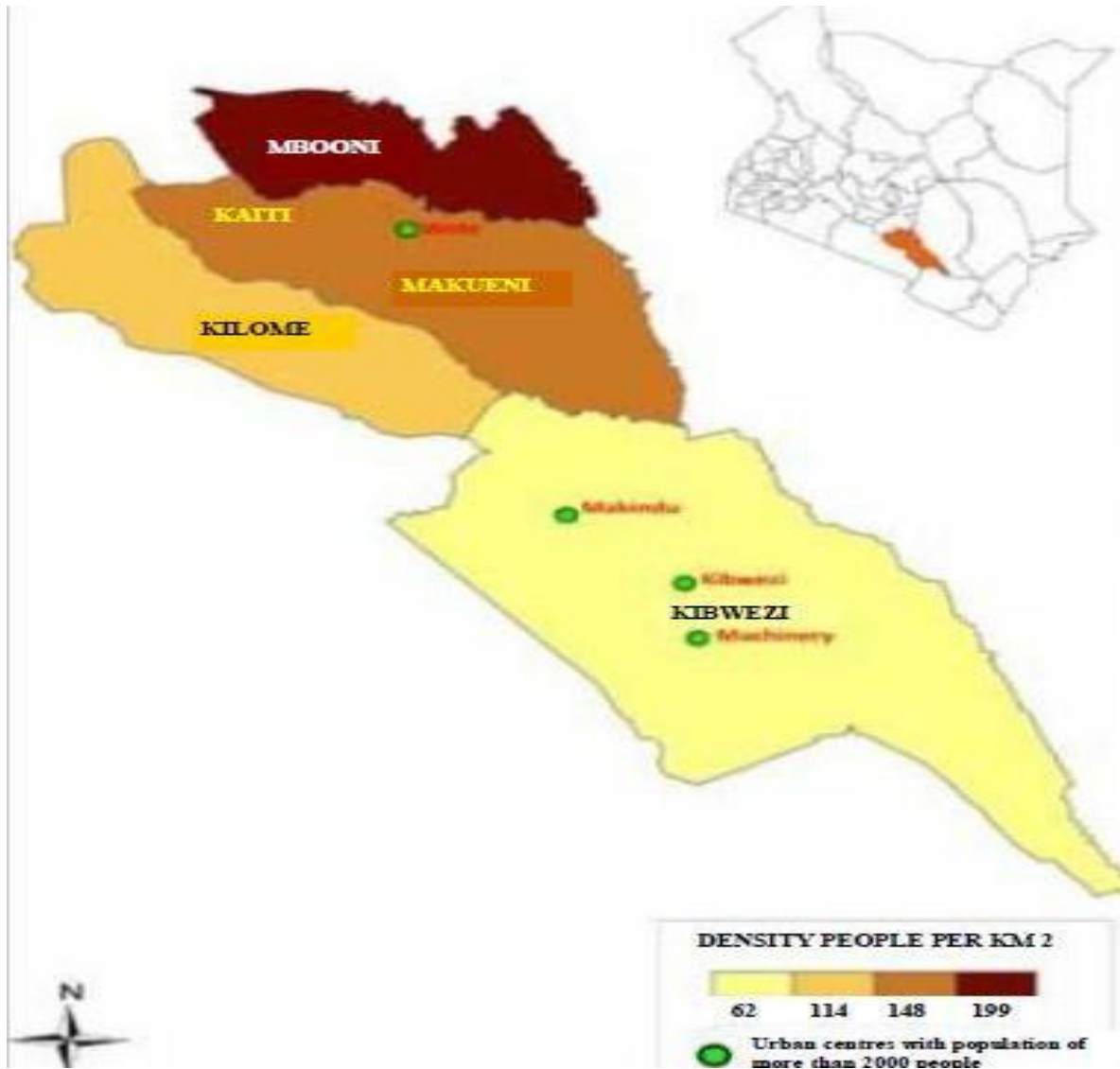
LOCATION OF MAKUENI COUNTY IN KENYA



Location of Makueni county in Kenya

Source: <http://softkenya.com/county/makueni-county/>

APPENDIX XV
MAKUENI SUB-COUNTY EDUCATIONAL BOUNDARIES



Makueni County: Educational Boundaries

Source: <http://www.kenyampya.com/index.php?county=makueni>