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

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#### Abstract

This study sought to investigate the influence of understaffing on learning and teaching in public primary schools in Makueni Sub County in Kenya. A Cross-sectional survey design was used in this study. Stratified sampling and simple random sampling techniques were used to select the participants for the study. The study employed questionnaires, interview guides and document analysis to collect data. Data were analysed qualitatively and quantitatively in line with the objectives of the study. The study established that first, there was understaffing of teachers in some of the public primary schools in Makueni Sub County. Secondly, it revealed that there was high pupil-teacher ratio in public primary schools in the Sub County which has a negative impact on teaching and learning, pupils' performance and the quality of education given. The study recommends that there is need to remedy to the state of understaffing in public primary schools through deployment of adequate number of teachers and that staffing officers in the counties should ensure fair distribution of teachers to all schools in all the regions.


Keywords- Teacher staffing levels; Makueni County; Kenya,; Educational challenges: Teacher student ratio; Teacher Recruitment; Primary education; The Catholic University of Eastern Africa; Finesse Publishing Ltd.

Paper Type- Research paper

## Introduction

Evidence from MOEST (2014), shows that the dissemination of teachers across the various areas in Kenya is characterized by disparities with some schools having more than they need or above what the staffing policies require whereas others have less as per the policies and needs in those schools. However, there is evidence that 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).

The main consequence of inadequate teacher levels is poor teaching and learning throughout the country (Wamukuru (2011). A number of researchers such as Akanga (2012), who carried out his study in Masaba South District, Kisii County, Kenya established that 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

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performance is not consistently evaluated. The increase in workload for teachers, consequently, leads to the failure to complete the given syllabus and in case it is finished it is done through a crash work program (shallow teaching). It also means teachers concentrate mainly on the examinable subjects of the syllabus and avoid teaching the non-examinable subjects which are an important part of learning.

Statistically, the global picture of teaching staff in schools shows that there is a problem of staffing levels which influences teaching and learning negatively worldwide. 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 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 an 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 85,000 nationally. This is partly because of increasing enrolment of pupils in both primary and secondary schools and registration of new schools.

In the year 2003, the Ministry 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 was achieving UPE is under-staffing.

In the year 2012, Kenya Institute for Public Policy Research and Analysis (KIPPRA, 2012), in a report indicated that understaffing in primary schools has reached alarming levels. The reason is that, required pupil-teacher ratio of 50:1 reached the maximum and the streams per class and teacher ratio were 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 PTR of 56:1 (KIPPRA, 2012). According to the Kenya National Bureau of Statistics (2012), 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 remain
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 is affected or influenced in some way for lack of enough teachers in schools. At the same time teachers are very instrumental in education (Merfat, 2016). Therefore it a matter of concern and there is need for more information to facilitate better strategies of dealing with the problem at local, regional and global levels. It is in this respect this study sought to investigate the influence of understaffing in Makueni sub-county, Makueni County, Kenya.

## Statement of the Problem

Understaffing of teachers influences teaching and learning in schools negatively. Over the years, there has been great demand for more teachers in schools due to the natural attrition such as 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 and most schools have remained understaffed to the present date (Anwoga, 2012). In some cases the burden of hiring extra teachers to fill gaps in many schools in the country has been left to parents, something which has not solved the matter especially in the poorer regions of the country. This state of affairs raises a question of whether in the absence of adequate staffing, the school curriculum is effectively implemented (Merfat, 2016).

A limited number of studies have been conducted to find out how under staffing has affected learning and teaching in schools. These studies have been mostly concerned with the influence felt in academic performance without investigating its impact on the practical aspects of teaching and learning which is a major gap. This means that there is need for more research to be done to provide useful data on the extent and impact of the problem as well formulate strategies to improve the situation. Therefore this study sought to investigate the influence of understaffing on learning and teaching in government owned primary schools in Makueni Sub County in Kenya.

## 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?

## Review of Related Literature

Policies and Trends in Staffing of Primary Schools in Kenya
According to Teacher Service Commission (TSC) (2012), 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

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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 level adequate to the tertiary institutions and 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 does not meet the demands and needs of schools. According to MOEST (2014), there were 317,477 teachers in the country. While the total figure of teachers was enough for the number of classes, the findings of the MOEST (2014), 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 the pupil-teacher ratio (PTR) was recorded at 41.5 for public schools. This is fair compared to the international standards (40). However, despite this impressive figure, 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; Kilif 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 correct to say that those schools with large population end up with large class of as many as 60 pupils in large population schools and other classes 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 Arid and Semi Arid Lands (ASAL) 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.

The trend over the years shows the Pupil-Teacher Ratio (PTR) is not consistent or maintained and that there is need for remedial measures. 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. Needless to say, the shortage of teachers and the big number of pupils in class could lead to poor quality of education by straining the teacher. (Orodho, Waweru \& Nthinguri (2013).

## Review of Recent Empirical Studies

Review of literature indicates that limited research has been done on the impact of understaffing on teaching and learning in the country. Simiyu (2012) carried out a study in Siboti Zone of Bumula District which established that understaffing is a major challenge to good results in teaching and learning in the District. The Kenya National Union of Teachers (KNUT) (2013) has repeatedly raised the red flag over challenges related to 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

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attaining effective teaching and learning. Given the gravity of the matter, there is need for more understanding of this increasingly common phenomenon of teacher understaffing.

Studies have indicated that pupils' performance in academics is affected negatively in schools where there are no 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 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.

There are other studies that have assessed the issue of PTR in schools and its effect on the quality education in our schools (Kanyiri, 2009; Munguti, 2009 \& Kikechi et al (2012). Among the observations they make include the fact 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 (2009) established that some teachers have classes with over 70 pupils, which means less individual attention to pupils. She adds that this is accompanied by lack of motivation for teachers who are overworked and underpaid. 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. Africa is high or very low pupil-teacher ratios.

A study by Wakoli (2016), done to examine the effects of work load on teachers' performance established that the primary school where teachers were overloaded share many subjects among few teachers per school with some of them teaching four subjects since there is no specialization. World Bank Group (2009) financed primary education projects are usually designed with an average pupilteacher 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.

## Summary and research gap

This review has shown that implementation of TSC staffing policies are confronted with major challenges. Most of the challenges arise from increased school enrolment throughout the country, environmental factors, imbalances in teacher distribution and irregular recruitment and deployment of primary school teachers. The review also provides a glimpse into possible negative impact of understaffing on the quality of teaching and learning without providing actual data on the extent of the problem. At the same time it is evident that studies done on the subject are in the country so far are few and scattered. Evidently therefore there is need for more studies to generate better understanding of the extent and impact of the problem in various parts of the country.

## Research Design and Methodology

Research Design
Cross-sectional survey design was used in this study. 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

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in a population but not to determine cause-effect relationship between different variables. This design was relevant in the present study since the researcher intended to collect data on teacher understaffing and its influence on teaching and learning through a questionnaire survey and observation.

## Target Population, Sample Size and Sampling Procedures

This study was done in Makueni sub-county in Makueni County, Kenya. This is a hardship area categorized as an Arid and Semi-Arid Location (ASAL). The target population consisted of all the 99 head teachers from all the primary schools in the sub-county, 99 heads of curriculum in the schools and 753 ordinary teachers working in these schools. It also included the staffing officer and the District Education Officer (DEO) of Makueni Sub County.

To select the number of schools to participate from each educational zone, the researcher used stratified sampling technique in which case the researcher sampled 20 schools which reflected $20 \%$ of the 99 schools in the sub county. Simple random sampling was used for ordinary 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. The categories of respondents included in the study are shown in Table 1 below.

Table 1- Sampling Frame Matrix

| 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 | $\mathbf{9 5 3}$ |  | $\mathbf{1 9 3}$ |  |

The study had a response rate of $95.29 \%$. The data on the demographic characteristics of the respondents of the respondents is presented by Table 2 below.

Table 2: Demographic characteristics of participants

| Demographics | Teachers |  |  | Head Teachers |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sex | Frequency |  |  | Frequency | \% |
| Male | 70 |  |  | 12 | 60 |
| Female | 72 |  |  | 8 | 40 |
| Total | 142 |  |  | 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 | 48 | 33.8 | 0 |
| PI | 48 | 33.8 | 10 | 50 |
| Diploma | 39 | 27.5 | 9 | 45 |
| Degree | 7 | 4.9 | 1 | 5 |
| MED | $\mathbf{1 4 2}$ | $\mathbf{1 0 0}$ | $\mathbf{2 0}$ | $\mathbf{1 0 0}$ |
| Total | Frequency |  | Percentage |  |
| Responsibility |  |  | 45 |  |
|  | 64 |  | 9.9 |  |
| Assistant teachers | 14 |  | 10.6 |  |
| Head teachers | 15 |  | 6.3 |  |
| Senior teachers | 15 |  | $\mathbf{1 0 0}$ |  |
| Teachers(others) | 40 |  |  |  |
| Class teachers | 9 |  |  |  |
| Total | $\mathbf{1 4 2}$ |  |  |  |

## Data Collection and Analysis

This study employed questionnaires, interview guides and document analysis to collect data from the collect data from the field. Data were analysed qualitatively and quantitatively in line with the objectives of the study.

## Discussion of findings

Distribution of the Number Teachers in Public Primary Schools per Educational Zone The first research question sought to investigate the distribution of teaching staff in public primary schools in Makueni sub- County, In order to analyze the issue data was collected on the distribution of the number teachers in public primary schools per educational zone. This data was analyzed and is presented in Table 3 below.

## i. What is the Distribution of Teaching Staff in Public Primary Schools in Makueni Sub- County?

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Table 3 Distribution of the Number Teachers in Public Primary Schools per Educational Zone

| Educational <br> zone | No. of <br> schools <br> per zone | No. of <br> classes <br> per zone | Expected <br> No. of <br> teachers | Actual <br> No. of <br> teachers | Shortage <br> per <br> 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 | $\mathbf{9 9}$ | $\mathbf{9 7 0}$ | $\mathbf{9 7 0}$ | $\mathbf{9 5 1}$ | $\mathbf{6 1}$ | $\mathbf{- 1 9}$ |

Table 3 shows the distribution of the total number of classes per educational zone compared to the total number of teachers in that particular zone. 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 the table is that the total number of classes in the sub county was 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. It was noted through the research that the understaffed educational zones mostly fall under the Arid and Semi-Arid Locations (ASAL).

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 lost five teachers between last year (2015) and March this year (2016) and only three were replaced (Interview $14^{\text {th }}$ June, 2016).

On the same note, the District Education Officer 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 (Interview 14 ${ }^{\text {th }}$ June, 2016).

The responses of these two officers showed concurrence that, the schools in the subcounty were indeed understaffed. 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 data analysis, almost every school 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 in Makueni Sub-County. The analysis also revealed that, schools in urban areas in the sub-county had more TSC teachers and less PTA teachers as compared to rural areas and ASAL areas respectively. Consequently there is high PTR and high teaching workloads among teachers.

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Average Number of Pupils per Class Per Teacher in the Schools
Data was collected to find out the average number of pupils per class for all the classes in the schools. The data obtained is presented in Table 4 below.

Table 4: Average Number of Pupils per Class

| 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 | $\mathbf{2 0}$ | $\mathbf{1 0 0}$ |

The distribution in Table 4 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 from the table clearly show that majority 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 concludes 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.
ii. How does teachers' workload influence teaching and learning in public primary schools in Makueni sub-county?

## Teachers Views on the Influence of Understaffing on Teaching and Learning

The second research question sought to investigate the influence of understaffing of schools to teaching and learning in the sub county. Data was collected from various categories of respondents on the matter. First, to find out the influence of understaffing in the sub county, teachers were asked to state what happens to teaching and learning in schools which are understaffed. Table 5 summarizes their responses.
Table 5: Teachers Views on the Influence of Understaffing on Teaching and Learning

| Response | YES |  | NO |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Freq. | $\%$ | Freq. | $\%$ |
| There is poor subject performance | 126 | 88.7 | 16 | 11.3 |
| Some classes are not attended but are <br> 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 |

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In Table 5, $88.7 \%$ of the teachers indicated that, understaffing leads to poor subject performance and $86.6 \%$ were of the opinion 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 understaffing resulted in poor quality of teaching. The table clearly shows that majority of teachers are very conscious about the influence of understaffing on teaching and learning compared to the small percentage of those who were negative. Based on this evidence, we can deduce that understaffing influences teaching and learning negatively.

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 number of classes exceeds the number of teachers in a given school. It can also be understaffed when the pupilteacher ratio exceeds the recommended one which is at least 1:40 and at most 1:50 (Interview: $14^{\text {th }}$ 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. 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 (Interview; 14 ${ }^{\text {th }}$ 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

Table 6: Teachers Views on the Influence of High PTR on Teaching and Learning

| 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 | International Journal of Educational Theory and Practice, Vol 1. No. 4, 2018

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Data presented in Table 6 shows that congestion in classes is 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 presented above indicates 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.

## Teachers views on the Influence of the Staffing levels of the Schools on Teacher Utilization

To investigate the impact of understaffing and high PTR, the teachers were asked to indicate whether the number of teachers in a school were underutilized (3), efficiently utilized (2), or over utilized (1) with regard to their work load; and while making reference to the staffing levels of the schools, i.e. overstaffed, adequately staffed and understaffed. The data collected on this issue is summarized in Table 7.

Table 7: Teachers Views on the impact of Staffing Levels Teacher Utilization

| 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 |  |  |  |  |

Data presented in Table 7 shows that there is a negative influence on teacher utilization in both overstaffed and understaffed schools and a positive influence in adequately staffed schools. In overstaffed schools, only a few of the teachers are efficiently utilized while a majority are under-utilized. This is as attested by the mean 2.5745 of the responses; which means that most of the teacher's responded in favour of 'under-utilized'. In understaffed schools, majority of the respondents were of the view that teachers were over utilized as confirmed by the mean of 1.3688 of the responses. Finally in adequately staffed schools, the respondents were of the view 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.

## Teaching lessons per Teachers per Week

In order to establish the influence of teacher's workload on teaching and learning, teachers were asked to indicate the total number of lessons that they taught per week. The results showed that out of 142 teachers, the minimum number of lessons (teaching work load) taught by some of the 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 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 affects the efficiency and effectiveness of the teachers negatively.

The reason why some teachers have 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. 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. 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 collected 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 them said that the documents were submitted on quarterly basis; $40 \%$ said that they were submitted after every one month, and only $5 \%$ said that they were submitted yearly.

## Teachers Views on Influence Heavy Workload on Teaching and Learning

In order to investigate the influence heavy workload on teaching and learning teachers were asked to state their experiences in instruction work in cases where there was understaffing. Data was collected, analyzed and is presented in Table 8 below.

Table 8: Teachers Views on the Influence of Heavy Work Load on Teaching and Learning

| 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 | 125 | 88 | 17 | 12 |
| subjects <br> Teachers use non-examinable subject periods to cover the syllabus <br> ofexaminable subjects | 129 | 90.8 | 13 | 9.2 |

The data in Table 8 shows that, a high percentage of the teachers, ( $90.8 \%$ ), are of the opinion that, teachers use the time allocated to non-examinable 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 take longer time than expected. The other responses were as follows: 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 teaching and learning in public primary schools (as noted from the influence 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 teaching and learning. The greatest influence ( $98.8 \%$ ) is seen in the selective teaching of subjects where examinable subjects are taught at the expense of the non examinable subjects. Teachers also agree in large numbers $(78.9 \%, 60.6 \%, 90.1 \%, 71.1 \%, 78.2 \%, 88 \%, \& 90.8 \%)$ on other influences of understaffing 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 preparation of schemes of work which far much higher than the negative responses (the highest percentage being $39 \%$ ). Based on these facts, we realize that heavy teaching workload caused by understaffing has far reaching influences to teaching and learning 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. An overwhelming $95 \%$ of them said that it was because there were no enough teachers and that the ones available were already overworked. On as to whether the teachers were trained on the subjects or not, $90 \%$ of them admitted that the

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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 forces teachers to neglect non examinable subjects. Consequently, some learning values are denied.

The data presented above indicates 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.

## Teachers Views on the Influence of Understaffing Heavy Teaching Work load and High PTR on Pupils' Performance

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 data obtained was analyzed using descriptive statistics as shown in Table 9 below.

Table 9: Teachers views on the Negative Influence of Understaffing, Heavy Teaching Work Load and High PTR on Pupils' Performance.

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

The data presented in Table 9 shows that most of the respondents are of the opinion that there is negative influence of understaffing, heavy teaching work load and high PTR on pupils'. This is as attested by the overall means of between 4 and 5 . This means that majority of the responses concur with the idea that, understaffing; heavy teaching work load; and high PTR generally influence pupils' performance negatively.

## Head Teachers' Views Impact of Understaffing on Teaching and Learning Activities

In order to investigate the impact of understaffing data was collected from head teachers on whether understaffing and high teaching workload influences teaching and learning activities. The ratings on how the following teaching and learning activities was done using 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. The data collected was analyzed and is presented in Table 10.

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Table 10: Head Teachers views on Impact of Understaffing and High Teaching Workload Influences Teaching-learning Activities

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

From the data presented in Table 10, it is evident that the influence of understaffing, high teaching workload and high PTR is negative. That is, teaching and learning activities are poorly done in the face of understaffing and heavy teaching workload. This is because most 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 shows that majority of the head teachers either agree or strongly agree with the fact that the teaching-learning activities mentioned are poorly or very poorly done. Based on this data it is certain that the effectiveness of these teaching and learning activities is negatively influenced by understaffing and heavy workload in the schools. The results also suggest that, understaffing and high teaching workload affects both curricular and co-curricular activities negatively.

## iii. What challenges are caused by understaffing to the teaching-learning process in Makueni sub-county?

## Head Teachers' Views on the Challenges caused Understaffed Schools

The third research question investigated the challenges caused by understaffing on teaching and learning. To analyze this matter, head teachers were requested to identify the challenges experienced in their schools in the face of understaffing. Data collected on the views of head teachers was analyzed and is presented in Table 11 below.

Table 11: Head Teachers' Views on the Challenges caused Understaffed Schools

| Response | Yes <br> Frequency | $\%$ | No <br> Frequency | $\%$ |
| :--- | :---: | :---: | :---: | :---: |
| Increase in the teachers workload | 17 | 85 |  |  |
| Teachers fatigue | 12 | 60 | 3 | 15 |
| Increased administrative work | 6 | 30 | 8 | 40 |
| Increase of indiscipline cases | 12 | 60 | 8 | 70 |
| Poor performance | 12 | 60 | 8 | 40 |

Data presented in Table 11 shows that more than $50 \%$ of the head teachers were of the opinion 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; $85 \%, 60 \%, 60 \%$ and $60 \%$ respectively. It is only one challenge, that is, increased administrative work, which had the support of a few respondents (30\%).

## Teachers' Views on the Challenges caused Understaffed Schools

To investigate further the challenges caused by understaffing on teaching and learning teachers were also requested to identify the challenges they experienced in the face of understaffing. Data collected on the views of teachers was analyzed and is presented in Table 12 below.

Table 12: Teachers views Responses on the Challenges due to Understaffing

| Response | YES | NO |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Freq. | $\%$ | Freq. | $\%$ |
| Heavy teaching workload | 124 | 87.3 | 18 | 12.7 |
| Fatigue by the end of the day | 115 | 1.0 | 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 |
|  |  |  |  |  |

Data presented in Table 12 shows 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 ( $64.1 \%$ ).

## Other Challenges of Additional Tasks Brought about by High Pupil-Teacher Ratio

The teachers were also asked to mention challenges of additional tasks, besides teaching, originating from high pupil teacher ratio (PTR) to the available teachers in the understaffed schools. Their Data collected on the views of ordinary teachers on this matter was analyzed and is presented in Table 13 below.

| Challenges of Additional Tasks Brought about by | High Pupil-Teacher Ratio |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 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 |

Data presented in Table 12 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.

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 pupils in a class, the more the inconvenience to the management and administration of the school. Again some classes may unattended in terms of class attendance; and others are simply re-assigned (Interview, $14^{\text {th }}$ June, 2016).

Data presented above revealed that, 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. Other challenges 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.

## Conclusions and Recommendations

The purpose of this study was to investigate the influence of understaffing of teachers on teaching and learning in public primary schools in Makueni subcounty, Makueni County, Kenya. Generally, from the foregoing discussions and the evidences provided, a number of conclusions were made. First, there was indeed understaffing of teachers in public primary schools in Makueni Sub County. The study also revealed that there was high pupil-teacher ratio in public primary schools in Makueni Sub County. The unfair distribution resulted in high workloads among teachers, and this adversely affected teaching and learning; as well as the performance of administrative duties. The study therefore concludes that understaffing in public primary schools in Makueni Sub-County was basically attributed to insufficient

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supply of teachers to the schools; poor distribution of the already available teachers; and high pupil-teacher ratios.

Secondly, it can be concluded that there was on average high teaching workload among the teachers in the schools due to understaffing. 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 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 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 also forced 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 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. As such there was ineffectiveness in curriculum implementation due understaffing. From the above analysis high PTR leads to increased administrative work; increased indiscipline cases to deal with, unattended special needs of children and poor class instruction.

Arising from this study a number of recommendations can be made. First there is need to improve or provide a remedy to the state of understaffing in public primary schools in the sub-county by ensuring fair distribution of the teachers; and replacement of the teachers who have already exited through natural attrition. 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 in solving the problem. The study therefore, strongly recommends review of the staffing policies. The study also recommends that there should be increase financial motivation for teachers working in Arid and Semi-Arid Locations (ASAL) to reduce the tendency of teachers posted there to seek transfers to other areas.

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