

## **Linking Expenditure on Board of Management Teachers' Wage Bill and Academic Performance: Lessons from Gem Sub-County, Kenya**

Norich Muindi Munyasia<sup>1</sup> and James O. Sika<sup>2</sup>

<sup>1</sup>Department of Educational Management and Foundations, Maseno University, Kenya; Email: norichmunyasia@gmail.com

<sup>2</sup>Department of Educational Management and Foundations, Maseno University, Kenya; Email: drjamessika@yahoo.com

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**Abstract:** Teachers are one of the most vital inputs in secondary schools without which countries experience great hindrance to provision of quality education. Gem Sub-County has the highest shortage of secondary school teachers in Siaya County, Kenya. In pressing forth, most schools resort to hiring BOM teachers at the school's own expense to curb the teacher shortage. This, however, largely compromises the quality of education as huge amounts of money meant for other educational resources are diverted to pay BOM teachers' wages. This paper is an analysis of the relationship between the expenditure on BOM teachers' wage bill and academic performance at Kenya Certificate of Secondary Education (KCSE) in Gem Sub-County. A target population of 38 head teachers, 190 Heads of Departments and 214 B.O.M teachers were considered for the study. Saturation sampling technique was used to select a sample of 34 principals, 140 Heads of Departments and 194 BOM teachers. Data collection was through document analysis guide and questionnaires for principals, heads of departments and BOM teachers. The content and face validity of the research instruments was established through scrutiny by research experts from the Department of Educational Management and Foundations, Maseno University, Kenya. Reliability of the instruments was determined through piloting in 4 schools that were not part of the sample and test re-test method was used to establish the reliability co-efficient of the questionnaires. Pearson's *r* was computed and gave coefficients of 0.78, 0.81 and 0.85 for principals, heads of departments and BOM teachers' questionnaires at a *p*-value of 0.01, respectively. Quantitative data was analyzed by descriptive statistics and presented in form of bar graphs, percentages and frequencies and inferential statistics while qualitative data was analyzed on an ongoing process thematically as they emerged. The study established a significant positive correlation of 0.645 in 2013 and 0.670 in 2014 between expenditure on BOM teachers' wages and KCSE performance. This paper adds to the growing corpus on studies that seek to provide platforms within which stakeholders in the education sector can base their policies.

**Key Words:** Board of Management, Teachers, Academic Performance, KCSE, Quality Education, Wage Bill

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### **I. Introduction**

The notion of education quality is often difficult to define. However, there are some basic features which are considered key to educational outcomes [1]. These include the quality of the teaching workforce, the availability of adequate educational resources, a supportive learning environment and suitable access to basic services in instructional settings like sanitation, clean water and electricity. All of these are important for the promotion of learning and educational performance.

Teachers are a central factor in the learning process in schools. Their attitudes and effectiveness in line of duty can vary depending on the incentives they meet. Pay structure is potentially an important incentive-tool in the hands of the education policy maker and merit pay proposals have recently been discussed in several countries and applied in some [2]. The findings of a study by Figlio and Kenny [3] on individual teacher incentives and student performance using the United States data indicate that test scores are higher in schools that offer individual financial incentives for good performance.

However, according to Whitley [4], there is a rising apprehension that school administrations consume too much of the educational dollar in traditional public schools, diverting much needed resources from classrooms and hampering efforts to improve student outcomes. The difficulty arises with the fact that administrators and teachers still need to be paid for their work which is the reason that not all the financial resources can be directed to classroom activities.

According to Yu [5], around 50% of the school effectiveness research studies in developing countries showed significant positive associations between academic achievement and school input as well as process variables like classroom, pedagogy and organization and school management. However, class size and teacher salaries had inconsistent or no effects on student academic achievement. Forojalla [6] says that due to salaries of personnel, particularly teachers, maintenance and upkeep of schools and the provision of the needed teaching materials and welfare of facilities tend to be sorely neglected. He further notes that the most expensive item in recurrent cost in African educational systems (primary and secondary) is the salaries of personnel, particularly teachers.

A study by ILO [7] on micro factors inhibiting education access, retention and completion by children from vulnerable communities in Kenya found out that in schools in Kinango, Msambweni and Matuga Sub-Countries in Kwale County, Parent Teachers Association (PTA)/BOM teachers' salary is one of the factors that influences school drop outs. Findings of a study by Mwendu [8] on school based factors influencing quality of education in public secondary schools in Kitui County, Kenya, indicate that one of the ways of reducing fees charged by schools on students is employment of enough Teachers Service Commission teachers to cut down the costs of paying BOM teachers. Lack of enough funds to run schools trigger the need for students being sent home for fees hence interfering with learning. Such disturbances eventually have a negative effect on performance of students.

Sisungu, Kaberia and Buhere [9] observe that while teachers are crucial for quality education, their contribution will be incomplete if there are no important inputs like textbooks. Fleshman [10] avers that due to teacher shortage in Kenya, head masters in many schools are diverting funds for supplies and construction to hire more teachers. This implies that if money that is meant to purchase teaching and learning resources is diverted to pay teachers' salaries, learning outcomes are likely to be negatively affected.

A case study of Siaya district by Sika, Gravenir, Riechi and Ogeta [11] on relationship between the components of unit cost and academic performance index and their significance in secondary schools in Kenya found out that variables such as bursary, activity, medical, electricity, water and conservancy as well as tuition were significant predictors of performance. However, their study did not consider wage bill of BOM teachers as a component of unit cost, an element that this paper puts focus on, hence the need to find out whether expenditure on BOM teachers' wage bill affects KCSE performance in public secondary schools in Gem sub-county.

## **II. Material And Methods**

The author in this paper used both descriptive survey and correlation designs. While the descriptive survey design enabled the author to collect detailed description in relation to wage bill of BOM teachers, correlation research design enabled the computation of a correlation coefficient that was used to determine the extent of relationship between expenditure on BOM teachers' wage bill and student performance in KCSE performance of public secondary schools [12].

Gem Sub-County in Siaya County, Kenya, formed the area of the study; convenient since it had the highest shortage of teachers in Siaya County as a consequence of upcoming of many day mixed secondary schools due to increased enrolment following the introduction of Free Day Secondary Education in 2008. As a result, most public secondary schools in the Sub-County had employed BOM teachers to curb the teacher shortage. The study population comprised 38 public secondary schools in the Sub-County, 38 principals, 190 Heads of Departments and 214 BOM teachers (Sub-county Education office Gem, Report 2014) resulting to a total of 442 respondents.

For the sampling distribution of Pearson's coefficient of correlation ( $r$ ) to be normal, the size of the sample should be 30 or greater [12]. Out of the 38 public secondary schools in Gem Sub-County, four schools (2 mixed day schools, 1 girls' boarding and 1 boys' boarding secondary school) were used for a pilot study. 34 schools (29 mixed day schools, one girls' day, two girls' boarding and two boys boarding secondary schools) were used for the main study [13]. The study therefore used 34 principals, 140 Heads of Departments and 194 BOM teachers. A sample population of 368 respondents was used in the study.

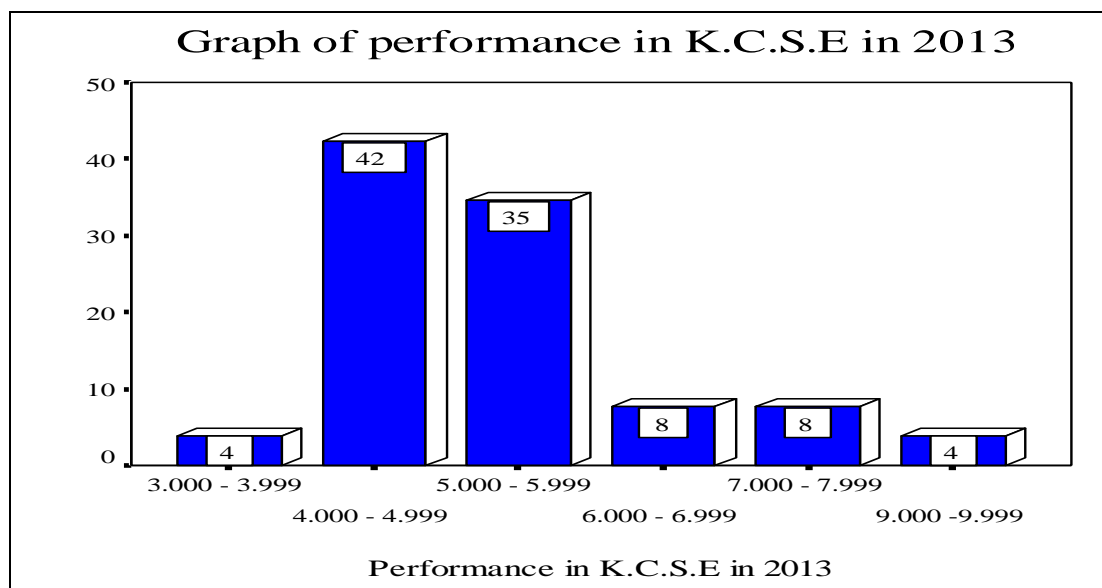
Questionnaire and document analysis guide were employed for data collection. The questionnaire was filled by the principals, Heads of Departments and BOM teachers. For document analysis, PTA project reports, school budgets, BOM teachers' payrolls, non teaching staff payrolls and fees structures were perused. These instruments were both validated and reliability tested. Candle [14] observes that a research instrument is valid if it actually measures what it is supposed to measure and when the data collected through it accurately represents the respondents' opinions. Mugenda and Mugenda [15] define reliability as the measure of the degree to which a research instruments yields consistent results or data after repeated trials. The study used test- retest to assess the reliability of the research instruments. Four schools (10% of the entire population) were used for piloting [15].

Data obtained from the instruments was then organized for accuracy, consistency and completeness. Different tables, charts and bar graphs were used to present the findings on BOM wage bill expenditure and

performance in KCSE. Qualitative data, on the other hand, was categorized into themes and sub themes, coded and analyzed on an ongoing process. Descriptive statistics was analyzed using scores from a Likert scale. The Likert scale had both negative and positive questions to gauge whether schools used funds meant for educational inputs to pay BOM teachers' wages. In the scale, the points were awarded by the author as follows: Strongly Agree (SA) = 5; Agree (A) = 4; Undecided (U) = 3; Disagree (D) = 2; Strongly Disagree (SD) = 1. Pearson correlation was also used to explore the strength and extent of the relationship between independent and dependent variable [16]. Employing SPSS version 21, correlation was computed to show the relationship between expenditure on BOM teachers' wage bill and KCSE performance at a set confidence level of 0.01.

### III. Results And Discussion

In Kenya, the shortage of teachers partly results from the agreement between the Government of Kenya and the International Monetary Fund (IMF) in 1997 to impose a limit of 235,000 on the number of teachers that could be employed [17]. Following the introduction of Free Primary Education (FPE) in 2003 and Free Day Secondary Education (FDSE) in 2008 in Kenya, pupil enrolment has tremendously increased. More secondary day schools have been established to cater for the high transition rates from primary to secondary [18]. Unfortunately, increase in enrolment has not been followed by increase of teachers. The study sought to establish the relationship between expenditure on BOM teachers' wages and students' academic performance in public secondary schools in Gem sub-county. Figure 1 shows performance in KCSE in 2013.



**Figure 1:** KCSE Performance in 2013

From the findings displayed in figure 1, only 20% of the sampled schools managed to score a mean of 6.000 and above. This is equivalent to a mean grade of C and above. On the other hand, 80% of the sampled schools scored a mean of between 3.000 and 5.999. This is equivalent to mean grade of D and C minus. This implies that 80% of the students from the sampled schools who sat for the KCSE in 2013 scored below average. Figure 2 portrays results in KCSE performance in 2014.

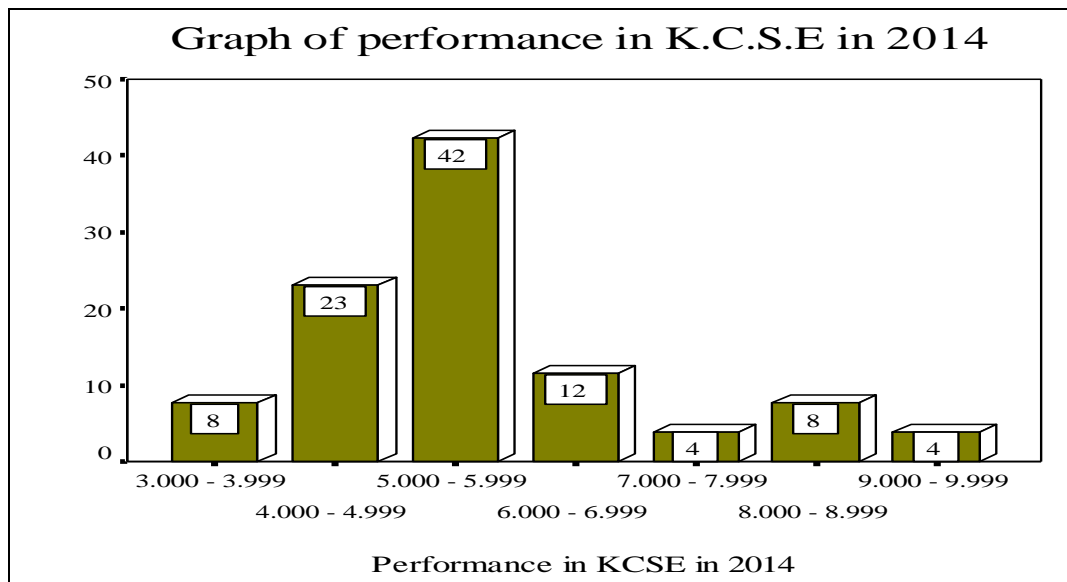


Figure 2: KCSE Performance in 2014

In 2014, there was an improvement in KCSE performance. The number of schools that scored a mean of between 6.000 and 9.999 increased from 20% in 2013 to 28% in 2014. However, schools that scored between 3.000 and 3.999 increased from 4% in 2013 to 8% in 2014. Most of the schools (73%) had a mean of below 6.000 which is an average score. The large numbers could still be attributed to the increasing numbers of students in the secondary schools given the fee subsidies by the government.

To establish the relationship between expenditure on wages of BOM teachers and students' academic performance in KCSE in the year 2013 and 2014, a Pearson correlation was performed. The results are as shown in Table 1.

Table 1: Relationship between Expenditure on Wages of BOM Teachers and Students' Academic Performance in KCSE

		Performance in K.C.S.E in 2013	Performance in K.C.S.E In 2014
Expenditure on BOM teachers' wage bill 2013	Pearson correlation	.645**	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on BOM teachers' Wage bill 2014	Pearson correlation		.670**
	Sig. (2-tailed)		.000
	N		26

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

The correlation between expenditure on BOM teachers' wages and performance in KCSE was 0.645 in 2013 and 0.670 in 2014, with a p-value of 0.000. Since the p-value was less than 0.01, it means that there was a significant positive correlation between expenditure on BOM teachers' wages and performance in KCSE in 2013. This implies that an increase in expenditure on wages of BOM teachers' leads to an increase in KCSE mean. This concurs with findings of an experimental programme by of a non- profit organization, International Child Support (ICS) on Extra Teacher Programme-Kenya which indicate that providing funding to school management to hire contract teachers substantially improved average test scores in the short-run [19].

In this study, 33.6% of BOM teachers cited low pay as one of the challenge they face. Caution must therefore be taken when it comes to banding the wages of these teachers. If expenditure on their wages is low, the students' performance would also drop. The Ministry of Education should therefore give guidelines on hiring and remuneration of BOM teachers. As much as BOM teachers are hired by schools' Boards of Management to reduce class size and hence improve performance [19], if not adequately remunerated, then improved academic performance would not be realized.

#### IV. Conclusion And Recommendation

This paper has demonstrated that there is a correlation between expenditure on wage bill of BOM teachers and students' academic performance as represented by pearson correlation of 0.645 in 2013 and 0.670 in 2014 KCSE performance at a p- value of 0.000 < 0.01. Since the p- value was less than 0.01, it means that there was a significant positive correlation between expenditure on BOM teachers' wages and performance in

KCSE. This means that as much as BOM teachers' wages affect the provision of vital educational inputs, a proper remuneration would largely improve students' performance in KCSE. An increase in expenditure on BOM teachers therefore goes hand in hand with improved performance in Kenya Certificate of Secondary Education.

This paper thus observes that schools should consider adequate remuneration of BOM teachers as their wages have a bearing on student's academic performance. Further, the author recommends that a study be conducted to establish the effect of BOM teachers' turnover on students' academic performance. This will enable policy makers and education stakeholders to know whether high turnover of BOM teachers affects students' academic performance hence take necessary measures.

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