



## RESEARCH ARTICLE

### CONTRIBUTION OF SCHOOL ADMINISTRATORS TO TEACHING-LEARNING RESOURCES IN ENHANCEMENT OF STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN KENYA: AN EMPIRICAL STUDY ACROSS SECONDARY SCHOOLS OF EMUHAYA AND VIHIGA SUB-COUNTIES

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#### ABSTRACT

School administrators are mandated to enhance students' academic performance by use of instructional supervision, teacher motivation, teaching learning resources and physical facilities. In Emuhaya and Vihiga Sub Counties performance had been below mean grade C+. From the years 2009 to 2013, Emuhaya and Vihiga Sub Counties' candidates who scored C+ and above were 3535 (26%) and 2104 (15%) respectively lower, compared to neighbouring Hamisi and Sabatia Sub-Counties' with 3913 (28%) and 4275 (31%) candidates respectively. The contribution of School Administrators to teaching learning resources in enhancement of students academic performance was unknown. The objective of this study was to determine the contribution of Administrators to teaching learning resources in enhancement of students' academic performance. The study was guided by a Conceptual Framework in which the independent variables were Administrators' contribution to teaching learning resources and the dependent variable, Students' Academic Performance. The study found that Administrators' contribution to teaching Learning Resources was moderate, positive and significant (Adjusted R2 = 0.343) and thus enhanced students' academic performance by 34.3%. The study concluded that school Administrators' contribution to Teaching Learning Resources was significant and enhanced students' academic performance. The study recommended that school administrators should increase their contribution to Teaching -Learning Resources in order to enhance further students' academic performance.

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## INTRODUCTION

The desire for quality education for the development for all Kenyans is one of the major objectives of secondary education. Quality education has over the years been measured by the quality of teachers, pupil teacher ratios, pupil text book ratios and pupils' cognitive achievement in the form of examination results (Amphiah, Kwaah, Yiboe and Ababiah, 2013). In line with this, School Administrators contribute to students' academic performance through instructional supervision and teacher motivation, authorizing expenditure on and ensuring that teaching learning resources and physical facilities are in place, with the aim of achieving good results. In addition, School Administrators participate in classroom instruction, school discipline and are custodians of public funds received from stakeholders. Studies have shown that quality education is often indicated by levels of students'

cognitive achievement or by a school's characteristics such as conditions of the school's buildings and adequacy of teaching learning materials (Fuller, 2006). School Administrators' contribution to education is one determinant of quality education since they are designated as internal quality assurance officers in schools (Ministry of Education, 2004). Owing to the challenges that faced the Directorate of Inspections, Principals were designated as Quality Assurance and Standards Officers in schools being entrusted with the task of instructional supervision. The Government has established Quality Assurance and Standards' Departments, provides trained teachers and funds Free Secondary Education in all schools to attain quality education (Republic of Kenya, 2008). Despite all these measures in place Emuhaya and Vihiga Sub Counties have not been able to realize quality grades. Parents are not obtaining their returns to investments. Tuition fund that is meant to assist in procurement of teaching learning resources has not helped much, since students are asked to buy exercise books (Ahawo, 2010). Further, a look at most new students' admission letters showed that they were required

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to bring along several 200 page exercise books, a realm of photocopy papers and a set book. In their study on the contribution of stakeholders to provision of teaching learning resources in enhancement of girl academic achievement in Siaya County, Ahawo and Simatwa (2015) interviews with Heads of Department revealed that different schools varied greatly in the instructional materials they had. In the study, principals contributed past papers and revision materials. The study found out that the Principals contribution was high with an overall mean rating of 4.15 and 3.8 for parents. This contribution had its origin in prudent management of resources bestowed to them. Therefore, the present study attempted to determine School Administrators' contribution to teaching learning resources with regard to authorization of actual expenditure on textbooks among other resources, and ensuring their use. Similarly, the Ahawo and Simatwa (2015) study narrowed itself to girls' schools in Siaya County. The present study was done in all the 58 secondary schools in Emuhaya and Vihiga Sub - Counties. Quality as measured by the state of infrastructure namely construction of classrooms, head teachers' housing, laboratories among other factors, has not been realized (Ampiah, Kwaaah, Yiboe and Ababia, 2013). School infrastructure influences quality of education hence students' performance. In Ghana, the working and living environment of teachers and students is below expectation (Akyeampong, 2003).

In many counties schools lack basic amenities such as piped water, electricity, staffrooms and toilets. Housing is a major issue for nearly all teachers, with only 30% of them being housed by 2003. In Kenya, the Ministry of Education identified critical shortage of permanent classrooms, existing school infrastructure in poor conditions, poor maintenance, poor water system and sanitation which in a way affect learner performance (Ahawo, Simatwa and Ayieko, 2015). In their study on Stakeholders contribution to infrastructure development in enhancement of girls' academic achievement in Kenya, Ahawo *et al.* (2015) found out that parents, principals and Boards of Management contributed to school infrastructure. The principals' mean of 3.13 ratings were higher than the teachers' of 2.93. Principals are the custodians of contribution made by stakeholders to the schools. The study recommended that the Kenyan Government through the Ministry of Education to insist on infrastructural facilities before a new school is registered, and that all stakeholders be encouraged to increase their contribution to infrastructure development so as to meet the threshold in enhancement of academic performance. Therefore, the present study attempted to establish School Administrators' actual expenditure on physical facilities, since they are the custodians of funds received in schools. The study derived responses from Principals, Deputy Principals, Heads of Department and Chairpersons of Board of Managements.

### **Research Objective**

The research objective was to determine the contribution of School Administrators to teaching- learning resources in enhancement of students' academic performance.

### **Synthesis of literature on contribution of school administrators to teaching- learning resources in the enhancement of students' academic performance**

The Ministry of Education underscores the importance of teaching learning resources in secondary schools by putting

their purchase under Tuition Fund (Republic of Kenya, 2008). In their study on the contribution of stakeholders to provision of teaching learning resources in enhancement of girl academic achievement in Siaya County, Ahawo and Simatwa (2015) interviews with Heads of Department revealed that different schools varied greatly in the instructional materials they had. In the study, principals contributed past papers, and revision materials. Like this study, they used descriptive research design of the survey type because it helps establish opinions, attitudes and knowledge about phenomena. The study population was 20 head teachers, 20 deputy heads teachers, 20 heads of examinations, 20 Church Sponsors, among others. The study found out that the Principals contribution was high with an overall mean rating of 4.15 and 3.8 for parents. This contribution has its origin in prudent management of resources bestowed to them. Therefore, the present study attempted to determine School Administrators' contributions to teaching learning resources with regard to authorization of actual expenditure and ensuring use of these resources. Similarly, the study narrowed itself to girl schools. The present study was done in all the 58 schools in Emuhaya and Vihiga Sub - Counties.

While studying factors influencing academic performance in Mixed Day Secondary schools in Kisumu East, Ahawo (2010) reported that 80% of Heads of Department reported that schools lacked most laboratory equipment, chemicals and specimens. Similarly, 100% of them reported that heads teachers were not providing enough stationery. They attributed this shortage to their head teachers' reluctance to purchase the required materials. Heads of Department maintained that head teachers were not providing enough exercise books and sometimes students were being forced to buy them especially graph books (Ahawo, 2010). This study did not establish the contribution of School Administrators to teaching learning resources in regard to funds allocation and ensuring that they are actually purchased and used, creating a need for this study. The study population used was 32 head teachers, 32 heads of Examinations, 1045 Form 4 students in 10 out of 32 sampled schools. Over and above these respondents, the present study sought responses from the 58 Deputy Principals and 58 Heads of Department. In addition the opinion of 58 Chairmen Board of Management in 58 secondary schools in Emuhaya and Vihiga Sub Counties was sought. Ahawo (2010) recommended that head teachers to prioritize the provision of laboratory equipment since they play a vital role in the performance of learners in Kenya Certificate of Secondary Education Examinations.

Therefore, the present study attempted to broaden the above study by establishing the School Administrators' contribution to teaching learning resources namely laboratory chemicals and equipment, photocopying papers and writing materials, in so far as allocating funds and ensuring that they are purchased for use in enhancement of students' academic performance. In a study on the relationship between mean performance in Kenya Certificate of Secondary Education Examinations and educational resource inputs in public secondary schools in Nyando District, with focus on mean performance in Kenya Certificate of Secondary Education examinations and expenditure per unit on textbooks, Olendo (2008) recommended that head teachers to buy more textbooks and ensure they are properly used to achieve good scores. Availability and effective use of teaching learning resources contribute to performance of students in Kenya Certificate of

Secondary Education examinations. While the study used ex-post facto research design, the present study used descriptive design of the survey type. Her study population included 46 head teachers, 564 teachers, 1 Sub county Education Officer with sample sizes of 15, 200 and 1 Sub County Education Officer respectively. The present study in addition sought responses from Deputy Principals, Heads of Department and Chairmen of Board of Management on School Administrators' contribution to teaching learning resources. Musungu, (2007) observed that involvement of head teachers in the provision of learning materials such as maps atlases, cookers, sewing machines, helped to improve performance by 15%.

There is no mention of School Administrators' contribution to teaching learning materials by way of funds allocation and expenditure in the realization of quality grades, a gap this study hoped to address. Public expenditure on education is aimed at achieving quality as one of the sixth Education for All Goals (UNESCO, 2005). This report found out that the provision of more textbooks, reduction in class size; among other factors have positive impact on learner achievement. Obtaining quality grades in examinations and subsequent training to all Kenyans is fundamental to the success of the Government's overall strategy (Republic of Kenya, 2012). Teaching/ learning resources are therefore essential in this matter at all levels of education worldwide. Oguntunse, Awe and Ajayi (2013), concluded that availability and adequacy of teaching learning resources promoted the effectiveness of schools as these are the basic things that can trigger good academic performance of students.

The study which was on the empirical nexus between teaching learning resources and academic performance in mathematics among Pre- University students in the Ile-Ife South –West, Nigeria, recommended that Government and Private Institutions to provide enough teaching learning aids to students' in order to enhance academic performance. Examples of such resources include; textbooks, computers, Lab equipment, exercise books, photocopying paper, instructional materials such as chalk, maps, charts. A study in Thailand indicated that textbooks were positively related to achievement (Fuller, 2006). While assessing the impact of textbooks on students' performance; Huneman (1984) as cited in Ahawo, (2010) concluded that textbooks had important effect on students' performance all over Philippines.

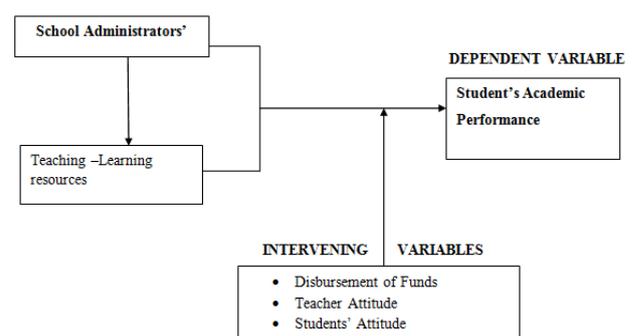
In their study on determinants of academic performance in Kenya Certificate of Secondary Education Examinations in public secondary schools in Kiambu County Kenya, Mwangi and Nyagah (2013) recommended that the board of management should equip the school laboratories and libraries and put up teachers houses. While studying school based factors influencing students' performance in public secondary schools in Lari District Kenya, Macharia (2012), found out that lack of adequate teaching learning resources, and physical facilities such as classrooms, libraries and science laboratories enabled students not to perform better in Kenya Certificate of Secondary Education Examinations. The study was conducted in 29 secondary schools. She recommended that Ministry of Education should consider increasing the provision of teaching learning materials in order to improve performance. She did not study the contribution of School Administrators with regard to actual expenditure on textbooks since Tuition Funds are given by the Ministry of Education, creating a need for this study.

## Conceptual Framework

A Conceptual Framework that guided this study is according to Frankeal and Wallen (2001), a mental or visual picture that a researcher develops to show relationships between and among concepts or variables (Figure 1). In the wake of emphasis on schools' performance in national examinations, a lot of focus is directed towards the mean grade C+ and above, leaving other areas of management unattended. Yet aspects of management among other things involve relating resources to the objectives (Paisley, 1993, as cited in Commonwealth of Learning and the Southern African Development Community of Education, 2000). The study attempted to examine how Administrators-independent variables - (Hunt and Ellis, 2004) contribute to students' academic performance. Independent variables are characteristics that probably 'cause' or influence or affect outcome (Creswell, 2003), whereas dependent variables are those that depend on the independent, are the outcomes or results of the influence of the independent variable. Students' academic performance is dependent on School Administrators' contribution to teaching learning resources.

The independent variables were computed against outcomes such as Kenya Certificate of Secondary Education Examinations mean Scores. Contribution to Teaching / Learning resources was measured by authorization of and cash expenditure on textbooks, meals and renovation and construction of buildings. Similarly, the presence of, or absence of physical facilities such as laboratories and libraries was examined. Studies by Moses (2012), Ahawo and Simatwa (2015), Musungu, (2007), Owoeye and Yara (2011), and Ayeni (2011) indicated that Administrators' contribution to Teaching learning resources enhanced students' academic performance. Further, it has been indicated by Khan and Iqbal (2012), Ihuoma (2008), Doane (2008), and Ahawo, *et al* (2015) that Administrators' contribution to physical facilities enhances students' academic performance.

## INDEPENDENT VARIABLES



Source: Researcher, 2014

**Figure 1. A Conceptual Framework showing School Administrators' Contribution to Students' Academic Performance in Secondary Schools in Emuhaya and VihigaSub –Counties**

## MATERIALS AND METHODS

The research designs for this study were descriptive survey and correlation. The study population was 4874 and consisted of 58 Principals, 58 Deputy Principals, 58 Heads of Departments, 4640 Students, 58 Chairpersons of the Boards of Management and 2 Sub- County Quality Assurance and Standards Officers. Fisher's formula was used to determine sample size of 355

students. Saturated sampling technique was used to sample Principals, Deputy Principals, Chairpersons of the Boards, Heads of Departments, and Quality Assurance and Standards Officers. Questionnaire, Observation Checklists, Document Analysis Guide, Interview Schedules, were used to collect data on Administrators' contributions. Face and content validity of research instruments were determined by experts in Educational Administration. Reliability of questionnaire was determined by piloting in 6 schools and a coefficient of 0.7 at p- value of 0.05 was set. Quantitative data was analyzed using frequency counts, means, percentages and regression analysis. Qualitative data was analyzed for content in emergent themes and sub themes.

## RESULTS

### Demographic Characteristics of Respondents

Demographic characteristics of School Administrators in Emuhaya and Vihiga Sub Counties as reported by Principals (n=52) were as follows:

From Table 2 it can be observed that 30 (58%) of School Administrators were male whereas 22 (42%) were female, with 28 (53 %) being aged above 50 years. This implies that the gender parity had not been realized in secondary school administration, with majority retiring in the next 10 years. However, 23 (45%) of the Administrators were aged between 41 – 50 years with only 1 (2%) aged below 40 years. Further, 33 (63%) Administrators had teaching experience of between 21 – 30 years, implying that they had been in the teaching profession for some time to understand how schools run. Similarly, 10 (20%) Administrators had a teaching experience of between 11 – 20 years, while 8 (16%) have a teaching experience of over 30 years meaning that they had matured in the profession. Concerning one's experience as an Administrator, 22 (43%) reported that they had over 5 years of experience in Leadership, while 17 (31%) had over 10 years. Only 7 (14%) had an experience of between 2 – 4 years. Job experience is defined as length of experience in a given occupation (Mac Daniel, Schmidt and Hunter, 1988). Studies have shown correlation between job experience and job performance to be positive. In the context of Rice (2010), experience matters, but more is not always better.

**Table 1. Candidates who retained Grade C+ & Above, Vihiga County, 2009 – 201**

Years Sub County	2009		2010		2011		2012		2013		Totals	
	Nos	%	Nos	%								
Vihiga	321	15	378	15	443	15	433	16	529	16	2104	15
Emuhaya	537	25	645	26	754	26	840	27	759	23	3535	26
Hamisi	632	30	743	30	829	28	847	26	1084	33	3913	28
Sabatia	652	30	702	28	900	31	957	38			4275	31
Totals	2142	100	2468	100	2926	100	3077	100	3234	100	13827	100

Source: Vihiga County Director of Education Office (2014)

**Table 2. Demographic Characteristics of Secondary School Administrators**

Characteristics	Frequency (f)	Percentage (%)
Gender: Female	22	42
Male	38	58
Total	58	100
Age in Years: 31 – 40	01	02
41 - 50	23	45
Above 50	28	53
Total	52	100
Teaching Experience in Years		
6 – 10	01	02
11 – 20	10	20
20 – 30	33	63
Over 30	08	15
Total	52	100
No. of Lessons taught per week		
Less than 6	05	10
6 – 12	15	27
Over 12	32	63
Total	52	100
Experience as Administrator in Years		
Less than 1	01	02
1 – 2	05	10
2 – 4	07	14
Over 5	22	43
Over 10	17	31
Total	52	100
Highest Level of Education:		
Master's Degree	13	25
Bachelor's Degree	38	73
Diploma	01	02
Total	52	100
Management Courses Attended		
KEMI / KESI	48	92
Non Attendance	04	08
Total	52	100

Source: Field Data, 2016

Key: KEMI- Kenya Education Management Institute KESI- Kenya Education Staff Institute

The impact of experience is strongest during the first few years of principals' leadership during which everyone wants to commit more funds on school activities, after that marginal returns diminish. As concerns the Number of lessons taught per week, 32 (63%) of the Administrators reported that they taught over 12 lessons per week. This is in keeping with TSC policy on Curriculum Instruction that ensures that School Administrators are in touch with what goes on in the classroom. Further, 15 (28%) of the Administrators indicated that they taught between 6 – 12 lessons a week, whereas 5 (10%) taught less than 6 lessons a week. In terms of the highest level of education attained, majority (73%) of Administrators had a bachelors' degree while 13(26%) and 1 (2%) had Masters' degree and a Diploma respectively. In so far as attendance of Management Courses was concerned, 40 (76%) School Administrators had attended Management Courses. This implies that majority of School Administrators are endowed with management skills gained from these training. Table 2 is important to this study in that it gives credibility of respondents used. Characteristics such as age show maturity levels of Administrators, Gender shows that information was obtained from both male and female. Gender of respondents indicates that leadership in schools is held by both male and females implying that both sexes are contributing to students' academic performance. Contribution by female Administrators is mainly channeled to girls' schools, whereas contribution made by male administrators is mainly channeled to both mixed and boys' schools. However, women remain strongly underrepresented in Senior school headship (Fuller, 2017). Although there are changes in the number of women holding senior leadership positions in secondary schools, a man teacher has a greater chance of being a head than a woman (Coleman, 2005). Women are favored as heads in all girls' schools. Becoming a woman head of a co-ed or boys' schools was comparatively difficult. With most of the School Administrators being above 41 years, it is expected that they are mature and credible enough to give trusted responses that can be relied on. Those below 41 years still have expectations in life. With 68% of the Administrators having a teaching experience of over 20 years, they understand what teachers are expected to do especially as concerns preparation of teachers' professional records. Therefore, such Administrators are bound to be knowledgeable enough to supervise teachers under them.

It is the policy that the principal must teach a number of lessons. As noted over 90% of Administrators teach between 6 – 12 lessons a week. This enables them understand the kind of teaching learning resources needed for proper curriculum implementation. They have a taste of what goes on in the classroom and prepare, use and maintain teachers' professional records such as Students' Progress Records. Head teachers should have manageable teaching loads so as to deal with paperwork in the offices (Sherrington, 2013). Workloads for Principals can have detrimental effects on the quality of teaching, the support they can offer to colleagues, and their health. Overloaded principals would be incapable of effectively carrying out their core work of administration (Ingvarson, Kleinhenz, Beavis, Barwick, Carthy and Wilkison, 2005). Experience is what you gain when you are in the field (Nandwah, 2011). Having been in the school system long enough both as teachers and leaders, Administrators are capable of evaluating themselves better in terms of supervising staff under them. This experience enables them to understand what motivates and demotivates teachers within these schools,

the essence of providing the necessary adequate Teaching learning resources, and ultimately proving adequate space to house these essential materials. Work experience is related to job performance (Quinones, *et al.* 1995).

With 73% of the Administrators having a Bachelor's degree, it is expected that they have a deeper understanding of what needs to be acquired in so far as Curriculum teaching learning materials are concerned, how to interact with and supervise teachers for the sake of enhancing students' academic performance. Higher education plays an important lesson in enhancing personal achievement in one's career. Higher college graduates contribute more than others to social wellbeing in terms of efficiency (Baum and Payer, 2005). A knowledgeable, honest and satisfied teacher will command respect and produce hard working, efficient and honest citizens (Shah, 2007). With knowledge acquired in school management, Administrators are expected to buy the right Instructional materials for curriculum implementation, build classrooms and other physical facilities to provide space for students, do classroom visitations to monitor, motivate and inspire teachers to enhance students' academic performance. KESI was a product of the Mungai Report of 1978. Currently KESI has been transformed into KEMI which offers In-service training to Principals, Deputy Principals and Heads of Department in schools, but does not prepare teachers aspiring to be Principals. Courses are offered in 2 weeks (April, August and December) which seems to be too short (Nandwah, 2011).

#### School Data

The study was conducted in 58 secondary schools of which 35 were from Emuhaya Sub – County and 27 from Vihiga Sub – County. Out of these 43 were mixed day schools, 10 girls' schools and 5 boys' schools. The students' population was as shown in Table 3. From Table 3 it can be seen that 6 (12%) schools had students' population of below 200 students, with another 6 (12%) having between 501 – 600, and another 6 (12%) having a student population of between 601 - 700. Only 12 (23%) schools had a student population ranging between 201 – 300, and another 10 (19%) schools had a population ranging between 301 – 400 students. Further, it can be noted that 9 (17%) schools had a population of between 401- 500 students, while 3(5%) schools had a student population of above 700. School population cuts across board where School Administrators are making contribution right from schools with low population to schools with large population. Therefore, the study gives realistic data on Administrators' contribution at various levels regardless of school population. This then makes a true representation of contribution of principals in both Emuhaya and Vihiga Sub - Counties. With a high population the principal has ample financial support from both Ministry of Education and parents to provide Teaching and learning resources such as textbooks. Extra funds received can also be used to construct needed physical facilities such as science laboratories so as to expand access, employ extra personnel such as security firms to secure that which they have acquired, and even create unauthorized boarding sections for form four students. With extra physical facilities, teaching and learning resources students are expected to perform better. On the contrary schools with low population leave Administrators with tied hands because of lack of money. From Table 4, it can be observed that only 4 (7.7%) schools obtained mean score of above 6.01(C Plain) implying that 48 schools had below average mean score.

**Table 3. Students' Population**

Category	Frequency (F)	Percentage (%)
Below 200	06	12
201-300	12	13
301-400	10	19
401-500	09	17
501-600	06	12
601-700	06	12
Above 701	03	05
Total	52	100

Source: Field Data, 2016

**Table 4. School Mean Scores of Students' Academic Performance in K.C.S.E 2016**

School's Performance Index	Frequency (f)	Percentage (%)
1.00-2.00	00	00
2.01-3.00	11	21
3.01-4.00	25	48
4.01-5.0	08	15
5.01-6.00	04	08
6.01-7.00	03	06
7.01-8.00	00	00
8.01-9.00	01	02

Source: Emuhaya and Vihiga Sub County Offices, 2017

**Table 5. Administrators' Expenditure on Teaching Learning Resources, From 2013 – 2016**

Administrators' Contribution to Teaching /Learning Resources (Kshs in Millions –value addition)	Frequency (f)	Percentage (%)
Less than 1.5	00	00
1.51 – 3.00	11	21
3.01 – 4.50	09	17
4.51 – 6.00	09	17
6.01 – 7.50	07	13
7.51 – 9.00	06	12
9.01 – 10.50	08	15
10.51 – 12.00	02	04
TOTALS	52	99

Source: Field Data, 2017

Key: Kshs – Kenya shillings

**Table 6. Regression Analysis of Administrators' Contribution to Teaching Learning Resources in the enhancement of students' academic performance (n = 52)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.597	.356	.343	1.01233	.356	27.634	1	50	.000

**Table 7. ANOVA of Administrators' Contribution to Teaching / Learning Resources in the enhancement of students' academic performance**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.319	1	28.319	27.634	.000
	Residual	51.240	50	1.025		
	Total	79.560	51			

**Table 8. Linear Regression Analysis of Administrators' contribution to Teaching Learning Resources in the enhancement of Students' Academic performance (n = 52)**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.485	1.219		-2.039	.047
	Teacher learning resources (value addition)	1.803	.343	.597	5.257	.000

Regression Equation obtained from Table 4.15 is:  $Y = \beta_0 + \beta_1 X_1 + \sum$

Students' Academic Performance = -2.485 + 1.803x.

Example: School No. 7. Performance = -2.485 + 1.803 x 4.00 = 4.72

This raises concern given that School Administrators are the custodians of school resources bestowed upon them to utilize in the enhancement of students' academic performance. The outcome of stakeholders' investment in education is evidenced in students' academic performance.

Poor results often cast aspersion on the kind of Administration in place, hence the need for this study to find out the efforts of Administrators' contribution in enhancing students' academic performance.

## Research Question

The research question responded to was: What is the contribution of School Administrators to Teaching Learning Resources in the enhancement of students' academic performance? To confirm the Contribution of School Administrators' to Teaching Learning Resources, Administrators' ratings on actual expenditure on Laboratory Chemicals and Equipment, Textbooks and Exercise Books, Stationery, Maps, Charts and other teaching Aids were computed. The results were as shown in Table 5. From Table 5 it can be seen that 11 (21%) Administrators contributed between 1.51 – 3.00 million Kenya Shillings towards expenditure on Teaching/ Learning Resources namely Text books, Laboratory Chemicals and Equipment among others. Further, 9 (17%) Administrators contributed between 3.01 – 4.50 million on Teaching Learning Resources with a similar number 9 (17%) spending between 4.51 – 6.00 million on the same. While 7(13%) Administrators committed and spent between 7.51 – 9.00 millions on purchase of Teaching Learning Resources, another 8 (15%) Administrators contributed between 9.01- 10.50 million Kenya Shillings towards the same. Only 2 (4%) School Administrators spent between 10.52 – 12.00 million on Teaching Learning Aids. To establish the contribution of School Administrators to Teaching Learning Resources in the enhancement of Students' Academic performance, Administrators' contributions to teaching –learning resources were regressed against students' performance.

The results were as shown in Table 6. From Table 6 it can be noted that there was a strong, positive and significant relationship between Administrators' contribution to teaching learning resources and students' academic performance ( $r = .597$ ,  $p < 0.05$ ). Further, it can be noted that Administrators' contribution to teaching learning resources accounted for 34.3% of students' academic performance as signified by the Adjusted  $R^2$  of .343. This means that when Administrators purchased textbooks, laboratory chemicals and equipment among other teaching learning resources, teachers get motivated to use these resources to improve performance. Administrators' contribution is adding value as signified by adjusted R square .343. This means that Administrators' Contribution had an influence on Students' Academic Performance. Administrators' efforts of authorizing expenditure and ensuring that teaching learning resources are provided for curriculum implementation has a positive impact on Students' Academic performance. This contribution supports earlier survey which showed that the 2 Sub Counties contributed 41% candidates out of the total University intake of 13847 candidates within Vihiga County. This could be attributed to Administrators' contribution to teaching learning resources. To determine the Administrators' Contribution to Teaching Learning Resources was a significant predictor of Students' Academic Performance, ANOVA was computed and the results as shown in Table 7.

From Table 7 it can be observed that Administrators' contribution to Teaching Learning resources was a statistically significant predictor of Students' Academic performance,  $F(1, 50) = 27.634$ ,  $p = .000$ ,  $R^2 = .356$ . Conversely, Document Analysis on school expenditure on textbooks, exercise books, and stationery revealed that there was a positive weak relationship between the Principals' contribution to textbooks and the actual amount spent on them ( $r=074$ ,  $N=52$   $P>.05$ ).

Principals' Contribution to actual expenditure on Laboratory Chemicals and Equipment was also a positive weak relationship ( $r=.208$ ,  $N=52$   $P = .05$ ). Principals contribution to actual expenditure on Teaching Learning Aids was also a positive weak relationship ( $r = .226$ ,  $N = 52$ ,  $p> .05$ ). The study further sought to establish the actual contribution of Administrators' to teaching –learning resources. A linear regression Analysis was computed as shown in Table 8. It can be observed that Administrators' contribution to Teaching / Learning Resources influenced students' academic performance. For every one unit increase in Administrators' contribution to teaching learning resources, it increased students' academic performance by 1.803 units as signified by the coefficient of 1.803. Any teaching learning aids, laboratory chemicals and equipment, text books and exercise books that the Administrators procured, it increased students' academic performance by 1.803 units.

## DISCUSSION

The variation in expenditure can be explained by the varied amount of capitation received from the Ministry of Education based on students' population in the individual schools. Free Secondary Education Fund commits Kshs.3902 per student per year for purchase of Exercise books among other Teaching Learning Resources. Therefore, schools with high population are bound to receive more money to spend. This is further confirmed by Moses (2012) who recommended that more learning resources be provided in the schools in Tarabu State, Nigeria since they contributed significantly to students' academic achievement in science subjects. Moses (2012) study focused on the learning resources provision in the 3 science subjects, and he did not assess the contribution of School Administrators in so far as the amount of cash authorized and spent on these learning resources. This finding agrees with Musau (2015) study on School based factors influencing students' performance in Kenya Certificate of Secondary Education Examinations in Masinga Sub – County, Machakos, Kenya. In his study, which focused on the provision of Teaching Learning materials, Musau (2015) concluded that Principals provided teachers with text books and other materials in order to ensure optimum curriculum delivery hence enhance learner performance.

Out of the total 15 respondents, 93% of the Principals agreed that quality physical materials make students perform. Further, he recommended that Principals to continuously provide Teaching learning Resources to enhance students' academic performance. However, availability and adequacy of learning teaching materials is not enough. The extent to which the Administrators made effort to authorize and ensured that teaching learning resources are purchased formed the basis of this study. Musau (2015) study did not interview Principals on the amount of cash schools spent so as to obtain these resources. Similarly, Munguti (2016) study with focus on relationship between Learning Resources and students' academic performance in Kenya Certificate of Secondary Education Examinations in Geography in Makueni County, Kenya concluded that access to a variety of Learning Resources, their availability and use in teaching and learning promoted academic performance in Geography in Kenya Certificate of Secondary Education Examinations. What was not studied is the effort of the Administrators to ensure that these materials are provided for curriculum instruction at some cost, which formed the basis of this study. In addition Munguti

(2016) confined his study on Geography as a **subject**. This study encompassed all teaching learning resources namely maps, charts, textbooks and mathematical models used in all subjects in the schools. As supported by Murithi (2015), Principals' Instructional Leadership involves providing text books and other teaching learning materials because good performance is attributed to adequacy of teaching learning resources. In his study, 60% of the Principals reported that they provided Teaching Learning Resources, which as pointed out by Adewale (2014b) as cited in Murithi (2015), that teaching and learning materials are determinants of quality education. Further, Oguntunse, *et al* (2013), concluded that availability and adequacy of teaching learning resources promoted the effectiveness of schools as these are the basic things that can trigger good academic performance of students. The study which was on the empirical nexus between teaching learning resources and academic performance in mathematics among Pre- - University students in the Ile-Ife South –West, Nigeria, recommended that Government and Private Institutions to provide enough teaching learning aids to students' in order to enhance academic performance. This is being done by the Government of Kenya as evidenced through Free Secondary Education Fund where purchase of Teaching learning resources is put under Tuition Fund. For the year 2018 the Ministry of Education has committed Kenya Shillings 4702 per student towards the purchase of teaching learning materials and examinations (Ministry of Education, 2017). Moreover, some schools receive teaching learning donated by well-wishers which was not factored in this study. While the Government of Kenya is providing funds for the procurement of Teaching Learning resources, it is not clear whether Administrators are using the same cash prudently to purchase the same. The present study has found out that contribution by Administrators was signified by the R of 59.7.

Teaching learning resources are essential in the provision of quality education at all levels of education worldwide. Examples of such resources in the study included; textbooks, exercise books, laboratory chemicals and equipment, stationery and teaching learning aids. Public expenditure on education in most countries is aimed at achieving quality as one of the 6 Education For All Goals (UNESCO, 2005). In this report, provision of more textbooks, reduction in class size, among other factors have positive impact on learner achievement. The provision of quality education and training to all Kenyans is fundamental to the success of the government overall strategy (Republic of Kenya, 2012). The principal's involvement in the provision of teaching learning materials such as maps, atlases, cookers and sewing machines was confirmed by Musungu (2007). However, Musungu (2007) study did not examine how much effort in terms of cash expenditure the principals put in to acquire these resources, a focus of this study. Textbooks provide the first reading experience to many learners and can be used as teaching aid on concrete experiences to promote child centered learning (Odhiambo, 2000 as cited in Olendo, 2008). Adequate textbooks and tuition equipment contributed 15% to students' results in Kenya Certificate of Secondary Education Examinations. However, Olendo (2008) study did not verify from the principals the total amount of school fund committed to and spent on these text books and equipment as it is the case in this study. In a study in the Philippines by Huneman (1984) in Eshiwani (1993) to assess the impact of textbooks on students' performance, it was concluded that an increase in the number of textbooks had an important effect on students' performance all over the Philippines. A study in

Thailand also showed that textbooks were positively related to achievement (Fuller, 2006). Therefore, the Ministry of Education underscores the importance of textbooks by putting their purchase under tuition fund (Free Secondary Education) to be used by Administrators. Textbooks are useful in further reading ahead to encourage completion of syllabus. In addition, Hallack (1990) as cited in Adoyo (2013) observed that textbooks are the instructional device par excellence and are central to teaching. In Less Developed Countries they often constitute 85% of recurrent expenditure of teaching materials. Students spend from 70 – 95% of classroom time using textbooks and teachers base more than 70% of their instructional decisions on them (Buhere, 2016). Text books are central to schooling at all levels. They provide the only source of information for students as well as the course of the study for the subject (Owoeye and Yara, 2011).

Students note down what is learnt in exercise books. In a study by Ahawo (2010), 60% of Heads of Department maintained that head teachers were not providing enough exercise books and sometimes students were forced to buy especially graph books. In this study it was observed from Focus Group Discussion with students that new students were advised in their joining instructions to come with exercise books which were then renewed upon being filled up. During the years 2013 – 2016 Administrators in Emuhaya and Vihiga Sub-Counties spend on average KSh.3.07 Million to purchase Textbooks and Exercise books. Lack of adequate laboratory chemicals and equipment negates academic performance since students did not do practicals and were only meeting some apparatus during the national exams. In one study, 80% of Heads of Department reported that schools lacked most lab equipment, chemicals and specimen attributing this shortage to their heads who they noted were reluctant to purchase the required facilities (Ahawo, 2010). Ahawo recommended that heads should prioritize the provision of laboratory equipment since they play a vital role in the performance of learners in Kenya Certificate of Secondary Education Examinations especially in science subjects. Ahawo (2010) study did not examine the efforts made by the Administrators to ensure that they authorized and spent cash on the purchase of these resources, which was achieved in the present study. During the years 2013 – 2016 Administrators in Emuhaya and Vihiga Sub- Counties spent on average KShs.1.66 Million to purchase Laboratory Chemicals and Equipment. Teaching learning aids allow students to get the correct concepts of the topic being taught. Examples of teaching aids under this study include maps, charts and mathematical models. Stationery such as photocopying papers allowed improved performance because with these papers students are exposed to many examinations. However, the study found out from Focus Group Discussion with students that students were encouraged to carry their own realm of photocopying papers yearly to boost the school supply.

Failure to buy and bring meant that 'equivalent would be deducted from the school fees paid' said Students during Focus Group Discussion. During the years 2013-2016, Administrators in Emuhaya and Vihiga Sub- Counties spend on average Kshs.1.15Million on the procurement of Teaching Learning Aids and other revision materials. In their study, Ahawo and Simatwa (2015) listed teaching learning resources as follows; textbooks, laboratory chemicals and equipment, instructional materials such as past papers, revision materials, writing materials, exercise books, photocopying papers,

computers and printers. Principals' contribution to these resources was high with a mean rating of 4.15. This contribution has its origin in prudent management of the resources bestowed to them. The mean ratings of the principals were significantly different from that of the teachers,  $t(1776) = 2.355$ ,  $p = 0.19$  meaning that the mean rating of principals was higher ( $M = 3.00$ ,  $sd = 1.669$ ), than the mean ratings of the teachers, ( $M = 2.83$ ,  $sd = 1.469$ ). However, Ahawo and Simatwa (2015) did not explore the contribution of the Principals in so far as authorizing expenditure on and ensuring that Teaching Learning Resources are actually bought for use to enhance learner performance. The study focused on the contribution of stakeholders namely the principals among others, in the enhancement of girls' academic achievement. This study interviewed Administrators on their budgetary allocation to and actual expenditure on Teaching Learning Resources. It found out that on average Administrators in the 2 Sub Counties committed and spent Kenya Shillings 4.74 Million on the purchase of Teaching Learning Resources between years 2013 – 2016. In the opinion of Savasci and Tomul (2013) while studying the relationship between Educational resources of schools and academic achievement in Elementary Schools in Burda Province in Turkey, concluded that classroom size does not have an effect on academic achievement. Rather presence of Laboratory Chemicals and Equipment, Teaching Materials, Library Books among other resources did. Presence of the resources is not enough. They could have been donated.

The study did not communicate how much in terms of expenditures the Principals incurred in order to obtain these resources. In agreement, Ong'amo, Ondigi and Omariba (2012), in their study on effect of utilization of Biology teaching and learning resources on students' academic performance in secondary schools in Siaya District, Kenya, recommended that basic teaching resources should be made available by the head teachers. They considered that this is not being done as reported by 104 (90%) of the head teachers in the study when asked about the adequacy level of teaching learning resources in their schools. The study focused on Biology subject, making it narrow and limited in so far provision of Teaching Learning Resources are concerned. Although the Government has considered giving Special Funds such as Laboratory Equipment Fund, for purchase of basic teaching learning resources, not all schools are being considered. Interview findings with the Heads of Department revealed Principals contribute enormously to teaching learning resources in secondary schools. Heads of Department explained thus, "Principals reach out to stakeholders namely sponsors, donors, well-wishers and politicians to solicit for text books, laboratory chemicals and equipment, computers, revision materials and other teaching aids." This assertion was supported by one Sub County Quality Assurance Standards Officer who said: "we expect Principals to use Tuition Fund given by the Ministry of Education to purchase textbooks, exercise books, writing materials, and teaching learning aids. As for course books we advise them to stick to one publisher" he added. Deputy Principals also weighed in thus: "our Principals ensure that they buy revision materials such as examination past papers, maps, charts, among others, when attending annual principals' workshops." Chairpersons of Boards of Management also stated that they make personal contribution in form of either computers, textbooks, or photocopy papers. "Yes we are normally invited for school functions such as 'Book Harvest' and are encouraged to donate

any teaching learning materials to support what is budgeted for. 'Cases abound where Principals solicit for Laboratory Equipment Fund from the Ministry of Education in order to stock their laboratories.

However, Focus Group Discussion with Students reported differently. Students said thus: "we buy exercise books, class readers, set books, and realms of photocopy papers before we get admitted to schools." Exercise books are replaced when they get filled up, but initially a student must buy them. Conversely, evidence from Document Analysis Guide showed that between years 2013 and 2016 School Administrators in Emuhaya and Vihiga Sub – Counties contributed on average Kenya Shillings 5.82 million on the purchase of teaching learning resources, with text and exercise books taking 3.07 Million Kenya Shillings. Contribution of Administrators to teaching learning resources was not by chance as it was evidenced by the 1: 3 text book to student ratio seen in the libraries, and with the 'Book harvest' functions the Administrators initiated in schools. Available textbooks had rubber stamps bearing the names and addresses of the donors meaning that Administrators had made efforts of finding assistance from well-wishers with regard to donation of teaching learning resources. This finding agreed with the findings of other researchers who found out that Administrators' contributions to Teaching Learning Resources enhances students' Academic Performance. This study further went ahead to quantify the actual contribution of Administrators to teaching learning resources in the enhancement of students' academic performance.

## Conclusion

Administrators' contribution to Teaching Learning Resources was significant and enhanced students' academic performance.

## Recommendations

The Ministry of Education should consider offering all secondary schools Laboratory Infrastructure Funds to ensure all schools procure laboratory equipment and chemicals by extension. Free Secondary Tuition Funds should be increased to schools to enable Administrators purchase Teaching learning Resources. A follow up exercise should be initiated to check school inventory records to ascertain if teaching learning resources are actually being purchased and used.

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