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Influence of Teacher Factors on Students' Academic Performance in Secondary School Education. A Case Study of Kakamega County, Kenya

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Influence of Teacher Factors on Students' Academic Performance in Secondary School Education. A Case Study of Kakamega County, Kenya

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ABSTRACT

Quality of education is assessed on the basis of learners' achievement. Performance in Kenya Certificate of Secondary Education examination is therefore a good indicator of the quality of education offered in schools. This is because it is a standardized instrument and therefore a reliable measure. In the years 2011 to 2014 Kakamega County posted mean scores of 5.439, 5.228, 5.363 and 5.654 respectively. These mean scores translate to an average of C- for the years 2011-2013 and C for 2014 which is below the acceptable minimum quality grade of C+ that enables candidates pursue competitive courses such as medicine, pharmacy, engineering, architecture, teaching, law and others in tertiary institutions and at university level. The key factors based on studies that influence students' academic performance in secondary education are: Principals, teachers, students, school factors and government policies. The teacher is the number two factor that influences students' academic performance. Teachers are facilitators of the learning process. Teachers are unique, in that they are architects, managers and engineers of pedagogy. This is why teaching/learning process is central to any education system. The objective of this study was therefore to determine the influence of teacher factors on students' academic performance in Kenya using Kakamega County as the site for the study. This study adopted ex-post-facto and correlational research designs. The study population consisted of 324 principals, 324 deputy principals, 9,000 form IV students and 1 County Education Quality Assurance and Standards Officer. The study established that teacher factors influenced students' academic performance by 59.4%. The other 41.6% was due to other factors which were not subject of this study. Teachers' Bachelor of Education degree qualification, Form IV qualification and Female teacher gender were statistically significant predictors of students' academic performance. Whereas teachers' Bachelor of Education degree qualification and female teacher gender enhanced students' academic performance, teachers with only Form IV qualifications reduced students' academic performance. Teachers' Master of Education degree qualification, teachers' Diploma in Education qualification, teachers' experience, teacher age, male teachers gender and teacher workload were not statistically significant factors in the prediction of students' academic performance.

Key Words: Influence, Teacher Factors, Students' Academic Performance, Secondary Education, Kakamega County, Kenya.

INTRODUCTION

Teacher factors and government policies are vital in achieving quality in the provision of secondary education. The achievement of universal participation in education is fundamentally dependent upon the quality of education available. For example, how well pupils are taught and how much they learn, has crucial impact on how long they stay in school and how regularly they attend. It could be judged unfortunate therefore that the quantitative aspects of education have become the main focus of attention in recent years for policy makers (Education for All, 2005). The achievement of quality education requires the collective effort of various stakeholders. Effort needs to be made by students, teachers, school principals and the government in order to realize desirable quality standards in secondary education. The schools also require specific facilities and optimum conditions in order to facilitate the efforts of the teachers, students and principals. This study examined the role played by teacher factors in providing quality secondary education as signified by student's academic performance.

The goal of achieving Universal Primary Education which is a prerequisite for secondary education has been on the international agenda since the Universal Declaration of Human Rights affirmed in 1948 that elementary education was to be made free and compulsorily available to all children in all nations. This objective has been

restated subsequently on many occasions, by international treaties and in United Nations conference declarations. Most of the declarations and commitments however, are silent about the quality of education to be provided (Education for All, 2005). According to Oniye and Alawaye (2008), the importance of examination or test taking for diagnostic placement, classification and quality control in Nigerian institutions have been greatly eroded and corrupted with increasing incidence of examination malpractice. They further assert that examination malpractice constituted one of the most debilitating problems facing the Nigerian education institutions and were constantly manifested and reported in their schools, colleges and other higher institutions. It is therefore important to prioritize and set quality teaching as a strategic objective for institutions to signal the institutions' commitment to fostering continuous improvement in teaching and learning (Henard & Roseveare, 2012).

The Basic Education Act (2013) provides for the right of every child to free basic education. It further provides for the right of every child in a public school to equal standards of education. This study therefore recognized the importance of the students in accessing education and also attaining quality standards comparable to their peers in other counties.

Newsberger (2003) established that 20 percent of high school students were in some kind of alienation from the educational system at any given time. This alienation created the kind of environment that easily prompted students to cheat to get admissions or scholarships to the next level. This study established the various reasons that contributed to students cheating in examinations. In a different study done in Nigeria, Udoh (2011) favourable results to their children. Watitwa (2010) on the other hand, concluded that there is a statistically significant relationship between students' motivation and achievement in Biology practical work. What was known from these studies was that parents would not hesitate to aid their students in examinations and that students' motivation was likely to boost high scores in Biology practical. What was unknown however was teachers influence on students' academic performance in secondary education in Kakamega County. This is what the current study sought to unravel. A teacher is expected to make every effort to expand the knowledge of his own subject and to improve his teaching technique. He/she is also expected to impart relevant knowledge, skills, attitudes and values to the learner. According to this study therefore the teacher was probably a major contributing factor to students' academic performance in secondary education in a school and by extension in the county.

Research Objective

To establish the influence of teacher factors on students' academic performance in secondary education in Kakamega County.

SYNTHESIS OF LITERATURE ON TEACHER FACTORS THAT INFLUENCE STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY EDUCATION

Teacher leadership is a resource for changing schools, using the knowledge, skills and talents of every teacher as a leader provides unlimited resources for positive outcomes. Teacher leaders' effectiveness depends not only on their own commitment to be leaders but also on the ability of their school's principal to skillfully support them and encourage a culture that allows teacher leadership to exist (Ackerman, Moller & Katzenmeyer, 1996). The delivery view of teaching measures quality of teaching from output. The quality of teaching is often defined in terms of what happens to students after a learning experience. Quality teaching should aim at quality learning. It is what learners are able to do after being taught that provides a valid measure of the quality of teaching.

Sichambo (2011) recommended that teachers' workload be reduced by employing more personnel. He advised that secondary school teachers, apart from the classroom teaching, had other responsibilities and a number of remedial lessons, large classes to handle, a lot of paper work which were causing moderate burnout thus performance had moderately slowed down. He further recommended that secondary schools need to find ways of completing the syllabus to avoid remedial lessons which increase teachers' workload. Ways to reduce burnout such as reducing the holidays and weekend remedial lessons, regular transfers and time for relaxation were recommended. This view agrees with that of Calvo et al (2000) who established that reducing class size and providing more opportunities for teachers' professional development may improve students' learning experience. A critical shortage of teaching staff can be a stumbling block towards the provision of quality education. This can be overcome by hiring expatriate personnel in education as seen in the case of Zimbabwe where skilled teachers have migrated to South Africa, Botswana and other Western countries seeking greener pastures. Mayeku (2009) on the other hand, established that inadequate staffing leads to heavy burdening of the staff and this has a great impact on the quality of the services they offer as a result affecting the quality of the programmes. Similarly, Watitwa (2010) advised that more teachers be employed to reduce the workload in order to allow teachers ample time to prepare

practical lessons. In addition, teacher shortage was identified by Mobegi (2007) as one of the challenges experienced by head teachers in their attempt to provide quality education whereas Odumbe, Simatwa and Ayodo (2015) concluded that low teacher-pupil ratio was one of the factors that enhanced performance in day secondary schools. Rosner (1985) also established that the hard-to-teach child needs explicit, unambiguous instruction that is offered in limited portions and accompanied by more than the usual amount of drill and practice. The studies mentioned above established that reducing the workload of teachers can lead to better quality education provided for learners.

High teacher experience was cited by Odumbe, Simatwa and Ayodo (2015) as one of the factors that enhance performance in day secondary schools. Ong'ele (2007) also established that teachers with more teaching experience performed better in actual classroom teaching than those with less teaching experience. This can be explained by the fact that experienced teachers have a mastery of subject areas and its scope are well versed in examination techniques, take keen interest in revision and examination techniques (Omariba, 2003). Rosner (1985) observed that teacher experience varied among teachers and had an effect on what happens in the classroom when a teacher interacts with her students. It is therefore one characteristic to consider when teaching assignments are determined. Bruce, Hersh and Mckibbin (1983) however are of different opinion, stating that however experienced the teachers, without a high quality of effort, other factors alone make little difference.

Teacher professional development has high influence on student motivation, teaching methodologies, communication skills, organization of content and planning of lessons and very high influence on students' participation during lessons, teacher confidence and knowledge of subject matter (Maende, 2012). Mwebi (2012) recommended that most teaching staff who have less than a Doctor of Philosophy degree should upgrade their qualifications. He established that most of the teaching staff in private universities had Masters qualification. Quality of education therefore was bound to suffer a great set back due to the lecturers' inability to deliver the good substance. Apart from Bruce, Hersh and Mckibbin (1983), the studies above indicated the contribution of teacher experience to provision of quality education. However, there is still a need to establish the influence of teachers' experience on students' academic performance in secondary education in Kakamega County, hence the need for the present study.

The most important factor affecting the quality of education is the quality of the individual teacher in the classroom. There is clear evidence that a teacher's ability and effectiveness are the most influential determinants of student achievement. Regardless of the resources that are provided, rules that are adopted and curriculum that is revised, the primary source of learning for students remains the classroom teacher. More critically, the importance of good teaching to the academic success of students is intuitively obvious to any parent (Council for Education Policy, Research and Improvement, 2003). Staff development plays a critical role in higher education. Calvo et al (2000) established that supportive teachers and their ability to explain clearly were the most influential factors that impacted students' satisfaction. Furthermore, whether parents send their children to school at all is likely to depend on judgments they make about the quality of teaching and learning provided upon whether attending school is worth the time and cost for their children and themselves (Education for All, 2005). However, Fatai (2005) counters that only the teachers who are qualified, certificated, competent and of a good moral standing need to be employed to teach the students. They should be dedicated teachers who would serve as role models in matters of punctuality, self-discipline, accountability, integrity and sound leadership styles. Effective schools have teachers who have a strong sense of efficacy. A sense of efficacy combined with high expectations for one's students communicates powerfully to students that they can learn and that they will learn (Bruce et al (1983). The knowledgeable teacher is one who knows what to teach and has some idea about how to do it. She knows that once a child learns a basic fact, this can be incorporated into a future lesson for teaching some subsequent fact. The knowledgeable teacher is constantly looking for better, more effective methods. She uses the new procedure and assesses its effects (Rosner, 1985). Teachers' subject-matter knowledge, teaching skills, dedication to teaching and openness to new ideas, all can play a significant role in determining the success of a new curriculum (Posner, 1992). The above studies have shown that a teacher's qualification impacts directly on the quality of education imparted upon the learners.

Absenteeism among teachers contributes immensely to the learners' poor performance, a phenomenon that makes teachers not to cover the syllabus adequately (Nyabuto, 2007). Anyiin (1998) on the other hand, submitted that non-coverage of prescribed syllabuses due to their extensiveness and the general nonchalant attitudes of teachers towards teaching were among the fundamental causes of examination irregularities in Nigeria's educational system. The argument here is that if the syllabus is not covered adequately, pupils are likely to be examined in content they did not fully cover and comprehend, which is likely to lead to poor performance. Teacher absenteeism was further established by Nakhanu (2009) as one of the factors that affect syllabus coverage. These findings further showed the relationship between syllabus coverage and students performance.

A World Bank report on Kenya established that children in Kenya are being cheated out of education because teachers stay away from school for more than half the school day. This was because the teachers either did not go to work at all or spent more of the day in the school compound doing other things. Even when teachers go into

the classrooms, the survey found only about one third of them give students value for money. This low level of service delivery is expected to have a major effect on the achievement of the country's development objectives (Kamuri, 2013). It has been shown above that teacher absenteeism impacts negatively on the quality of education received by their students. What is yet to be established however is the influence of teacher absenteeism on students' academic performance in secondary education in Kakamega County. This is the gap the current study sought to fill. Further, the World Bank survey highlighted by Kamuri (2013) surveyed 300 public and private primary schools and 3,000 of the country's 270,000 teachers.

CONCEPTUAL FRAMEWORK

The following conceptual framework envisions the selected factors that interplay to influence the provision of quality secondary education (figure 1).

Figure 1.0: Teacher Factors that influence student's performance in secondary education

The conceptual framework postulated that various factors can influence students' performance in secondary education. Students' low Kenya Certificate of Primary Education marks, poor study habits and indiscipline may result in low mean grades at Kenya Certificate of Secondary Education, whereas good study habits, discipline and high Kenya Certificate of Primary Education marks may result in high mean grades at Kenya Certificate of Secondary Education. However, the low mean grades can be avoided if students adopted a positive attitude and had their basic needs met and their school fees paid promptly by their parents. Similarly, the teachers' factors that may positively influence the provision of quality education such as proper qualification and long teaching experience may not produce the expected results if the teachers' attitudes are negative. All independent variables therefore can influence students' academic performance in secondary education either negatively or positively depending on their nature and also considering the impact of the intervening variables upon them.

RESEARCH METHODOLOGY

The study employed the descriptive survey and correlational research designs. The study population consisted of 324 principals, 324 deputy principals, 9,000 candidates and the County Quality Assurance and Standards Officer. The study sample will consist of 176 principals, 176 deputy principals, 1760 candidates selected through multi-stage and proportionate sampling techniques and 1 County Quality Assurance and Standards Officer selected through the saturated sampling technique. Data was collected by use of questionnaires, interview schedules, focus group discussions and document analysis guide. Validity of the instruments was determined by experts in educational administration. The reliability of the instruments was determined through a pilot study in 32(9.8%) schools whereby Pearson's r was performed to establish the co-efficient of reliability at the set p -value of 0.05. The questionnaire had a co-efficient of .8 which meant that it was reliable. Quantitative data was analyzed using descriptive statistics in form of frequency counts and percentages. Inferential statistics, that is, regression analysis, was used to establish the influence. Qualitative data was organized into themes and sub-themes as they emerged.

RESULTS

Demographic Characteristics of Principals

The respondents of this study included school principals, Kenya Certificate of Secondary Education candidates (2011 Cohort) and the County Quality Assurance and Standards Officer. The demographic characteristics of the principals were as shown in Tables 1.

Table 1: Principals' Demographic Characteristic

Demographic Characteristic	Frequency (f)	Performance (%)
Gender		
Male	116	65.9
Female	60	34.1
Total	176	100
Qualification		
BSC	2	1.1
BED	148	84.1
MA	3	1.7
MED	23	13.1
Total	176	100
Age (in years)		
36-45	26	14.6
46 -55	124	70.4
56-60	0	14.8
Total		100

Table 1 provides demographic characteristics of the respondents. It can be observed that out of the 176 principals involved in the study 116 (65.9%) were male whereas 60 (34.1%) were females. This shows that very few female teachers are appointed as school principals in Kakamega County. This is in agreement with a study carried out in a sampled number of schools in Kenya by Bosire et al (2009) who indicated that out of the sampled school principals 22(79%) were males while 6 (21%) were females. From Table 1, it can further be observed that 2(1.1%) of the principals are holders of a BSC degree; 148 (84.1%) have a B.ED degree; 3(1.7%) are holders of the MA degree and 23 (13.1%) are holders of an MA degree. Age in years of the principals: 26(14.8%) were aged between 36-45 years; 124(70.5%) were aged between 46-55 years and 26(14.8%) were aged between 56-60 years.

Table 2: Principals' Professional experience

Professional experience	Frequency (f)	Percentage %
Experience in current station		
1-5 years	43	27.8
6-10 years	113	64.3
11-12 years	14	7.9
Total	176	100
Experience in other stations		
0-1 years	117	65.4
2-5 years	45	26.6
6-8 years	14	8.0
Total	176	100
Teaching load (lessons)		
3-9	100	56.8
10 -15	76	43.2
Total	176	100

From the findings in Table 2, it can be observed that only 14 (7.9%) of the principals had served as principals for over 10 years, whereas 49(27.9%) had served for between 1-5 years. 113(64.1%) had served for 6-10 years. Table 2 further shows the headship experience of the principals in other stations. 117(66.5%) principals were serving as principals for the first time in their current stations. 45(25.6%) had previously served as principals for a period of 2-5 years and 14(8%) had served for between 6-8 years previously. With regard to workload of the principals, 100(56.8%) taught between 0-9 lessons in a week whereas 76(43.2%) taught between 10-15 lessons.

School data with regard to number of students per school, number of form four students, number of streams per school, average class size, frequency of testing policy, teacher-student ratios and book-student ratios were tabulated and are shown in Table 3.

It can be observed from Table 3 that most of the schools had a population of 200 students and below as shown by a frequency of 71(40.3%). This means that most of the schools were starting schools which are mainly characterized by low enrolment, shortage of teachers and shortage of other facilities such as textbooks, libraries and laboratories. Only 7(4.0%) of the schools had a population of 1000 students and above. It can be observed that 103(60.6%) of the schools were single-streamed. Most schools had a candidature of 12-40 (34.7%) and 41-. 80(34.1%). Average class size which shows that 107 (60.8%) of the schools had an average class size of 18-45 whereas 66(37.5%) had an average class size of 50-60. Ninety nine (56.3%) of the schools had a teacher-student ratio of between 1:9 and 1:15, whereas 64 (36.3%) had a teacher-student ratio of between 1:16 and 1:20. Eight (4.5%) of the schools had achieved a book - student ratio of 1:1, whereas 31(17.6%) of the schools had a book-student ratio Of 1:2.

Table 3: School Data

Student Population	Frequency (f)	Percentage (%)
Number of Students		
95-200	71	40.3
202- 300	39	22.2
305-500	36	20.5
510-800	23	13.0
1000-1300	7	4.0
Total	176	100.0
Number of form four students		
12-40	61	34.7
41-80	60	34.1
81-120	24	13.6
122-160	16	9.1
166-195	8	4.5
229-366	7	4.0
Total	176	100.0
Number of Streams Per Class		
1	103	60.6
2	45	24.0
3	17	9.7
4	4	2.3
5	5	2.8
6	1	0.6
Total	176	100.0
Average class size		
18-45	107	60.8
50-60	66	37.5
65-70	3	1.7
Total	176	100.0
Teacher – student Ratio		
1:9-1:15	99	56.3
1:16-1:20	64	36.3
1:21-1:28	13	7.4
Total	176	100.0
Book- Student Ratio		
1:1	8	
1:2	31	
1:3	55	4.5
1:4	31	17.6
1:5	22	12.5
1:6	16	9.1
1:7	13	7.4
Total	176	100.0
Frequency of Testing Policy		
1	1	0.6
2	59	33.5
3	79	44.9
4	37	21.0
Total	176	100.0

Research Objective

The research objective was: To establish the influence of teacher factors on students' academic performance in secondary education in Kakamega County.

To accomplish this objective teacher factors were established and tabulated (Table 4). These factors were: teacher qualification (Master of Education, Diploma in Education or Form IV certificate), teaching experience, teacher's age, teacher's gender and teaching load.

Table 4: Teacher Factors as indicated by Principals in the Questionnaires

Teacher characteristics	Frequency (f)	Percentage (%)
Teacher Qualification		
Master of Education (M.Ed)	218	10.3
Diploma in Education (Dip. Ed)	372	17.6
Bachelor of Education (B. Ed)	1157	54.8
Form IV certificate	365	17.3
Total	2112	100
Teacher Experience (In years)		
<1	44	2.1
2-5	179	8.5
6-9	1039	49.2
10-14	218	10.3
15-19	150	7.1
20-24	163	7.7
25-29	249	11.8
30-35	70	3.3
Total		100
Teachers Age (In years)		
18-23	49	2.3
24-29	203	9.6
30-34	1071	50.7
35-39	236	11.2
40-44	135	6.4
45-49	139	6.6
50-54	192	9.1
55-60	87	4.1
Total	2112	100
Teachers Gender		
Male	1121	46.9
Female	991	100
Total	2112	53.6
Teachers' Load		
6-10	118	5.6
11-15	146	6.9
16-20	1092	51.7
21-24	499	23.6
25-29	156	7.4
30-35	191	4.8
Total	2112	100

To establish the influence of the teacher factors on Kenya Certificate of Secondary Education performance statistical analyses in the form of Pearson's moment correlation and multiple regression were carried out. Correlation analysis between the teacher factors and Kenya Certificate of Secondary Education performance was run and the results are as shown in Table 5.

Table 5: Pearson's Product -Moment Correlation between Teacher Factors and students' Performance in Kenya Certificate of Secondary Education (n = 2112)

Teacher Factors		Students' academic Performance
Teacher qualification		
	M.ED	r .546
		P .000
B.ED	n	218
	r	.700
	P	.000
Dip. ED	n	1157
	r	-.456
	P	.000
Form IV certificate	n	372
	r	-.672
	P	.000
Teaching Experience	N	365
	r	.637
	P	.000
Teacher's Age	n	2112
	r	.681
	P	.000
Teacher's Gender	n	2112
	r	.081
	P	.288
Female	n	.1121
	r	-.091
	P	.229
Teacher's load	n	991
	r	-.214
	P	0.004
	n	2112

r – Pearson correlation coefficient

p – Calculated p-value n-Study sample

In analyzing the relationship between teacher factors and performance in Kenya Certificate of Secondary Education in Kakamega County, several meaningful findings were obtained. Results in Table 5 show that a positive, but moderate relationship existed between teachers who were holders of Masters Degrees and Kenya Certificate of Secondary Education performance ($r = .546$). The relationship was significant ($P < .05$). The coefficient of determination, that is R^2 was .298, meaning that teachers who were holders of a Masters degree accounted for 29.8% of the variation in Kenya Certificate of Secondary Education performance. This means that teachers who were holders of Masters Degrees moderately influenced performance in Kenya Certificate of Secondary Education. Other factors were also responsible such as capacity of the students and availability of revision material. Interview findings indicated that although teachers who were holders of Masters degrees were competent and effective in class, often they were unavailable in school. Further, results show a positive and strong relationship between teachers who are holders of the Bachelor of Education degrees and Kenya Certificate of Secondary Education performance in their schools ($r = .700$). This relationship was significant ($P < .05$). The coefficient of determination, that is, R^2 was 0.49, meaning that teachers who were holders of a Bachelors degree accounted for 49% of the variation in Kenya Certificate of Secondary Education performance. This means that teachers who are holders of the Bachelor of Education degree strongly and significantly influence performance in Kenya Certificate of Secondary Education. In an interview with the County Quality Assurance and Standards Officer, he confirmed that the better staffed a school was with graduate teachers, the better the school performed in Kenya Certificate of Secondary Education. This he attributed to their competence and adequate training. Teachers who are holders of the Diploma certificate exhibited a moderate relationship with Kenya Certificate of Secondary Education performance in their schools. This relationship was however negative ($r = -.456$). The relationship was also significant ($P < .05$). The

coefficient of determination that is R^2 was .208 meaning that teachers who were holders of the Diploma Certificate accounted for 20.8% of the variation in Kenya Certificate of Secondary Education performance.

Findings in Table 6 also showed a moderate but negative relationship between the Form IV Leavers teachers and performance in Kenya Certificate of Secondary Education ($r = -.672$). This relationship was significant ($P < .05$). The coefficient of determination, R^2 was .452 meaning that Form IV Leavers teachers accounted for 45.2% of the variation in Kenya Certificate of Secondary Education performance. This means that the Form IV Leaver teachers decreased students' performance in Kenya Certificate of Secondary Education. It can be established further that there was a moderate positive relationship between teaching experience and Kenya Certificate of Secondary Education performance ($r = .637$). The relationship was significant ($P < .05$). The coefficient of determination, R^2 was .406 meaning that teaching experience accounted for 40.6% of the variation in Kenya Certificate of Secondary Education performance. Results further show a moderate positive relationship between a teacher's age and Kenya Certificate of Secondary Education performance ($r = .681$). The relationship was significant ($p < .05$). The coefficient of determination, R^2 was .464 meaning that a teacher's age accounted for 46.4% of the variation in Kenya Certificate of Secondary Education performance. This means that the older a teacher was the more significantly they would impact upon the Kenya Certificate of Secondary Education performance of their students. This can be explained by the fact that the older a teacher is, the older they are likely to be in the profession. This would therefore translate into a longer teaching experience which has been shown to have a positive influence upon student's performance in Kenya Certificate of Secondary Education.

From the Table, that there was a weak negative relationship between the teaching load a teacher had and Kenya Certificate of Secondary Education performance ($r = -.214$). This relationship was significant ($p < .05$). The coefficient of determination, R^2 was .045 meaning that a teacher's workload accounted for 4.5% of the variation in Kenya Certificate of Secondary Education performance. This means that the greater the teaching load a teacher had, the less likely they were to assist students achieve quality grades at Kenya Certificate of Secondary Education. A complementary regression analysis was performed to identify the influence of teacher factors on Kenya Certificate of Secondary Education performance. The regression model consisted of five variables: teacher qualification (M.Ed, B.Ed, Dip Ed and Form certificate), teaching experience, teacher's age teacher's gender and teaching load. Table 6 shows the linear regression model summary of teacher factors and performance in Kenya Certificate of Secondary Education.

Table 6: Linear Regression Model Summary of Teacher Factors and Students' Academic Performance in Kenya Certificate of Secondary Education

Model	R	R square	Adjusted R square	Std. Error of the estimate
1	.783 ^a	.613	.594	1.08061

a. Predictor: (constant), Teacher Qualification (M.ED, B.ED, Dip. ED, Form IV certificate), Teaching experience, Teacher's Age, Teaching Workload, Female Teachers, Male Teachers.

As shown in Table 6, the correlation between Kenya Certificate of Secondary Education performance and teacher factors (teacher qualification, teaching experience, teacher's age, teacher's gender and teaching load) yielded adjusted R square (R^2) of .594. This means that 59.4% of the total variance in Kenya Certificate of Secondary Education results was accounted for by teacher factors (qualification, age, experience, gender, and workload) and the other factors, 41.6% was due to other factors that were not subject to these factors. Bruce et al (1983) for instance stated that however experienced the teachers, without a high quality of effort, other factors alone make little difference.

The data was also subjected to ANOVA to establish whether teacher factors were significant predictors of Kenya Certificate of Secondary Education performance. The results were as shown in Table 7.

Table 7: ANOVA Test for Teacher Factors and Students' Academic Performance in Kenya Certificate of Secondary Education

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	307.193	8	38.399	32.884	.000b
Residual	193.843	166	1.168		
Total	501.036	174			

a. Dependent variable: Students' Academic Performance.

b. Predictors (constant): Teacher, qualification, teaching experience, teacher's age, teacher's workload.

From Table 7, it can be observed that teacher factors were significant predictors of Kenya Certificate of Secondary Education performance as indicated by .000^b. The calculated p- value of 0.000 was less than the critical p- value of 0.05.

The teacher factors were further subjected to multiple linear regression to determine the actual influence. The results were as shown in Table 8.

Table 8: Multiple Regressions Analysis for the Influence of Teacher Factors on Students' Performance in Kenya Certificate of Secondary Education

Model	Unstandardized coefficients		Standardized coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	-.751	3.422		-.219	.827
Teacher qualification (M.E.D)	0.000	0.021	0.001	0.024	.981
Teacher qualification (B.E.D)	0.344	0.068	0.383	5.032	.000
Teacher qualification (Dip. Ed)	-0.026	0.054	-0.027	-0.477	.634
Teacher qualification (Form IV certificate)	-0.305	0.102	- 0.286	-2.994	.003
Teaching experience	-0.090	0.141	- 0.155	-0.637	.525
Teacher's age	0.187	0.131	0.382	1.435	.153
Teacher's gender (male)	-0.018	0.075	-0.012	-0.234	.815
Teacher's gender (female)	0.225	0.078	-0.154	-2.869	.005
Teaching workload	0.132	0.74	0.098	1.778	0.077

a. Dependent Variable: Students' Academic Performance.

Table 8 shows that out of nine variables, three were statistically significant at 0.05 levels. The variable of teacher qualification (B.E.D) was significant as the calculated p- value of 0.000 was less than the set p- value of 0.05 indicating that teachers who were holders of the B.E.D degree were significant predictors of Kenya Certificate of Secondary Education performance. This means that an increase in one unit of teachers with a B.E.D degree will increase performance in Kenya Certificate of Secondary Education by 0.344 units as signified by a coefficient teachers who were holders of the B.Ed degrees were likely to add value to their students and eventually assist them score high grades at Kenya Certificate of Secondary Education

The variable of teacher qualification (Form IV Leavers) was also significant as the calculated p-value of 0.003 was less than the set p-value of 0.05. The influence of the Form IV Leavers on Kenya Certificate of Secondary Education performance was however negative. This means that an increase in one unit of the Form IV Leavers teacher will decrease performance in Kenya Certificate of Secondary Education by 0.305 units as signified by a coefficient of 0.305. This can be explained by the fact that these teachers were still undergoing and were therefore not yet equipped with all the necessary knowledge and skills required for the profession.

Variable of teachers' gender (female) was also significant as the calculated p-value of 0.005 was less than the set p-value of 0.05 indicating that female teachers were significant predictors of Kenya Certificate of Secondary Education performance. This means that an increase in one unit of the female teacher will increase performance in Kenya Certificate of Secondary Education by 0.225 units as indicated by a coefficient of 0.225.

DISCUSSION

In the interview with the deputy principals, one of them observed that "such teachers are often absent from school" as some had taken on part time teaching in colleges and universities. In the interview with the County Quality Assurance and Standards Officer, he observed that many teachers who were holders of the Masters Degree often seek for transfers to schools near or accessible to universities and colleges where they can take up part-time teaching. The implication of this is that the teachers are not fully available at their work stations thereby unable to fully assist their students achieve their best in Kenya Certificate of Secondary Education

Fatai (2005) in a study titled 'Causes, Implications and Solutions in Examination Malpractices in Ilorin East Local Government Secondary Schools' observed that teachers who are employed to teach students should be dedicated and serve as role models in matters of punctuality, integrity and accountability. Without these traits therefore, the teachers are likely to impact less upon the excellence of students in Kenya Certificate of Secondary Education even if they are qualified. Nyabuto (2007) in a book titled 'Grade Repetition in Kenyan Primary Schools'.

Issues of Learning Disabilities' established that absenteeism among teachers contributes immensely to learners' poor performance, a phenomenon that makes teachers not to cover the syllabus adequately. Anyiin (1998) in a study titled 'Examination Malpractice in Benue State Schools: The Way Forward' concurs, submitting that non coverage of prescribed syllabuses due to their extensiveness and the general nonchalant attitude of teachers towards teaching was among the fundamental causes of examination irregularities in Nigeria's Educational system. The argument here is that if the syllabus is not covered adequately, pupils are likely to be examined in contents they did not fully cover and comprehend, which is likely to lead to poor performance. There is therefore a need to enforce the requirements for teachers to be available in school throughout so as to add value to the students. Further, measures should be taken to motivate teachers who have pursued further studies in order for them to have job satisfaction in their jobs in schools without always looking out for better job opportunities that will see them exit the teaching profession.

From the interviews with the deputy principals, a deputy principal of a school that excelled in Kenya Certificate of Secondary Education stated that only teachers who were holders of a Bachelor of Education degree and above were hired to teach in the school, even by the Board of Management. In a different school that posted poor results at Kenya Certificate of Secondary Education, a deputy principal remarked that the school faced a serious staff shortage. However, due to the low enrolment of students in the school was unable to hire graduate teachers who expected to be paid high salaries. Instead they were forced to hire Form IV Leavers who in the end failed to adequately prepare the candidates for the national examination thus contributing to poor results at Kenya Certificate of Secondary Education. From the Focus group discussions, the students described the graduates as competent, having good mastery of content and delivered lessons in an interesting way, in a different Focus group discussion the students deserved that graduate teachers were always available in school and therefore could easily be reached for consultation thus assisting them to make good progress in class. These findings concur with those of Fatai (2005) who concluded that only teachers who are qualified, certificated, competent and of good moral standing need to be employed to teach students. Similarly, Bruce et al. (1983) in a book 'The Structure of School Improvement' acknowledged that a knowledgeable teacher is one who knows what to teach and has some ideas about how to do it. This can only be achieved by going through the necessary training. The findings in this study indicated a trained graduate as having a significant positive influence on Kenya Certificate of Secondary Education, the outcomes further agree with those of Rosner (1985) in a book 'Helping Children Overcome Learning Difficulties' who established that a knowledgeable teacher is constantly looking for better, more effective methods of teaching, thus enabling them to add value to their students. Correspondingly, Calvo et al. (2000) in a study titled: 'Factors Affecting Students' Experiences' established that supportive teachers and their ability to explain clearly were the most influential factors that impacted students' satisfaction. This ability can only come about through proper training. It is therefore evident that effort needs to be made to ensure that schools are staffed with graduate teachers. Extra effort needs to be made by schools to supplement the Teachers service Commission staffing policy to ensure that graduates are available in school to prepare students for national examinations.

Teachers who were holders of Diploma certificate performed below par in comparison to their B.Ed counterparts. In the interview with the deputy principals, one of them remarked, "they often suffer from inferiority complex and lack confidence in their interactions with the students". A different deputy principal observed that the holders of the Diploma certificate have a problem with influencing the Kenya Certificate of Secondary Education outcomes of their students. These findings concur with those of the Council for Education Policy, Research and Improvement (2003) in a study titled 'Florida Teachers and the Teaching Profession' which established that the most important factor affecting the quality of education is the individual teacher in the classroom. This therefore implies that if the individual teacher lacks subject content and self-confidence, this will certainly affect their delivery in class. It is therefore crucial to re-examine the suitability of having the Diploma holders preparing students for national examinations. Teachers had not undergone training and were therefore not prepared to teach. The interview findings correspond with the questionnaire findings of this study. In the interview with the County Quality Assurance and Standards Officer, concurred that schools that hired undergraduates often performed poorly in national examinations. This could be attributed to the fact that the teachers failed to adequately prepare the students for examinations. His views were echoed by the deputy principals in their interviews. One deputy principal observed that most of the Form IV Leavers have few teaching skills and lacked content in the areas they handled. They therefore added little value to the students they taught. Another deputy principal observed, 'These Form IV Leavers are usually young, some even being age mates of the very students they taught. They therefore often lacked command in class and were also not very good in communication skills.' From the focus group discussions, the students observed that most of the Form IV Leavers were merely like their peers and therefore lacked seriousness. A different student observed that these teachers were often unable to answer questions asked, the students and some even skipped topics they didn't understand in their respective subject areas. This disadvantaged the students causing them to perform poorly in exams. The findings from the Focus group discussion concur with those of Council for Education Policy, Research and Improvement (2003) which observed that the importance of good

teaching to the academic success of students is intuitively obvious to any parent. Calvo et al (2000) echoes these findings, concluding that supportive teachers and their ability to explain clearly were the most influential factors that impacted students' satisfaction. Similarly, Education for All (2005) in a study titled 'Understanding Education Quality' observed that whether parents send their children to school at all is likely to depend on judgments they make about the quality of teaching and learning provided- upon whether attending schools is worth the time and cost for their children and themselves. The implication of this is that parents are likely to check on the staffing of a school before sending their children to any given school. Students are also able to tell which teacher delivers to their satisfaction and may quite easily demand that those that do not deliver stay out of their classes. It is therefore vital for school administrators to ensure that only the qualified teacher is entrusted with the all-important assignment of preparing students for national examinations.

It can be established further that there was a moderate positive relationship between teaching experience and Kenya Certificate of Secondary Education performance. This could be attributed to the fact that these were seasoned teachers who had interacted with different types of students of and were therefore able to effectively apply teaching methods that would suit individual students. They are also likely to have benefited from regular in - servicing and were therefore up to date with the current trends in their respective teaching areas. Findings from the interview with the County Quality Assurance and Standards Officer corresponded with the questionnaire findings. He acknowledged that the more experienced a teacher was, the more conversant they were with teaching trends and thus much better placed to add value to their students. He added that schools that were staffed with more experienced teachers performed better in examinations. Conversely, schools that were staffed with more teachers with little teaching experience performed poorly in a comparison to the latter. From interviews with the deputy principals, the same sentiments were echoed. One deputy principal observed that teachers with little teaching experience were often just from college and still needed a lot of guidance and direction on the best strategies to apply in order to maximize their output from the students. The teachers with longer teaching experience on the other hand were described as "competent, had better mastery of content and possessed a variety of skills that enabled them to assist students perform well in examinations." These views concur with those of Odumbe, Simatwa and Ayodo (2015) in a study titled 'Factors Influencing Student Academic Performance in day Secondary Schools in Migori District' who established that high teacher experience was one of the factors that enhance performance in day secondary schools. Ong'ele (2007) and Omariba (2003) are in agreement, concluding that teachers with more teaching experience performed better in actual classroom teaching than those with less teaching experience. This can be explained by the fact that experienced teachers have a mastery of subject areas and its scope, are well versed in examination techniques and take keen interest in revision and examination techniques. Rosner (1985) concurs with the observation that teacher experience varied among teachers and had an effect on what happens in the classroom when a teacher interacts with her students. It is therefore one characteristic to consider when teaching assignments are determined. These findings agree with those of Maende (2012) in a study 'Influence of Professional Development on Teacher Effectiveness in Public Secondary Schools in Mumias District' who established that teacher professional development has high influence on student motivation, teaching methodologies, communication skills, organization of content and planning of lessons and very high influence on students participation during lessons, teacher confidence and knowledge of student matter. Bruce et al (1983) however are of different opinions, stating that however experienced the teachers are, without a high quality of effort, other factors alone make little difference; from the findings of this study it can be observed that teaching experience plays a crucial role in the quality of student outcomes in national examinations. Although other factors such as qualification are also important, years of experience in handling examination classes, interacting with students and exposure to varying teaching and examination techniques give the experienced teacher an upper hand in being able to deliver better quality outcomes at Kenya Certificate of Secondary Education than their less – experienced counterparts.

From interviews with the County Quality Assurance and Standards Officer, it was observed that the other teachers also tended to be those with longer teaching experience. He added that the older teachers had been observed as having better people skills that enabled them engage students in activities that maximized their potential. Interviews with the deputy principals produced similar results. One deputy principal agreed that the older teachers had longer teaching experience and has enabled them to employ varied and most appropriate teaching methods that would enable students perform well in examinations. In a different school, the deputy principal observed that most of the older teachers had the added advantage of having taught in more than one school and therefore brought on board combined strategies that would yield excellent results for the students at Kenya Certificate of Secondary Education. These results concur with the findings of Omariba (2003) in a study titled 'Factors that Contribute to Performance in Public Examinations in Rural Secondary Schools in Kisii District' who established that the experienced teachers, who are often the older teachers, have a mastery of subject areas and its scope, are well versed in examination techniques', take keen interest in revision and examination techniques. From the findings, older teachers bring along the added advantage of experience which translates into time - tested

strategies that would yield optimum results for candidates at Kenya Certificate of Secondary Education. However, it is also important to consider the down side of the older teachers who may also be conservative and not willing to embrace change. They may also be unwilling to try new and more effective teaching methods which would guarantee better results for their students. Age would therefore be an advantage only if the older teachers were flexible enough to combine time- tested techniques with modern, effective and efficient teaching methods that can guarantee better results for the students.

Interview findings indicated that high teaching loads impeded a teacher's ability to assist students obtain quality grades at Kenya Certificate of Secondary Education. In the interview with the County Quality Assurance And Standards Officer, it was observed that schools that were understaffed and where teachers had high work loads had students performing poorly in examinations and Kenya Certificate of Secondary Education in particular. This he attributed to the fact that the teachers were so busy attending to many other classes that they had no time to spare for the candidates who needed individualized attention. On the contrary, schools that were adequately staffed and where teachers had low teaching loads had students performing well in Kenya Certificate of Secondary Education. This was due to the fact that the teachers had more time to spare for the candidates and were therefore able to devote time to address the individual weaknesses of students, a fact that guaranteed good results for the candidates. From the interviews with the deputy principals, one of them observed that teachers who had high teaching loads had little time to mark students assignments and were also not able to address the individual weaknesses of students. This disadvantaged the students, causing them to perform poorly in examinations and especially Kenya Certificate of Secondary Education. A different deputy principal commenting on teachers with low teaching loads observed that such teachers were often available to help students during extra time, were able to supervise group work as well as avail time for consultation from students. All these strategies enabled the teacher to address individual areas of weaknesses of students and thus enabled the students perform well in examinations and particularly Kenya Certificate of Secondary Education. The findings from the interview concurs with the findings of the literature reviewed. Sichambo (2011) in a study titled 'Impact of Burnout on Secondary School Teachers' Performance' indicated that secondary school teachers, apart from the classroom teaching had other responsibilities and a number of remedial lessons, and large classes to handle and a lot of prayer work which were causing moderate burnout thus performance had moderately slowed down. Calvo et al (2000) being in agreement established that reducing class size and providing more opportunities for teachers professional development may improve students' learning experience. Mayeku (2009) further concurs, establishing that inadequate staffing leads to heavy burdening of the staff and this has a great impact on the quality of the services they offer as a result affecting the quality of the programmes. Odumbe, Simatwa and Ayodo (2015) also noted that low teacher pupil ratio was one of the factors that enhanced performance in day secondary schools. It is therefore evident that effort needs to be made to increase the efficiency and productivity. This will ensure quality outputs from students in terms of quality graded at Kenya Certificate of Secondary Education; further staffing policies need to give preference to the low- staffed schools in an attempt to improve performance in such schools.

An analysis of available documents such as class registers and roll - call sheets from the deputy principal's offices indicated that distances covered by students to and from school for day schools also affected their performance. Similarly, lack of basic necessities such as sanitary towels for girls that caused them to be away from school for a given number of days also negatively affected their performance. On the overall,, it can be observed that teachers who were holders of the Bachelors degrees strongly and positively influenced performance in Kenya Certificate of Secondary Education. In contrast, Form IV Leaver teachers had a significant but negative influence on Kenya Certificate of Secondary Education performance. The age and experience of a teacher, which are related also significantly influenced performance in Kenya Certificate of Secondary Education. It can be deduced therefore that the older a teacher is, the longer their experience and this puts them in a favourable position to be able to influence positively, the performance of students in Kenya Certificate of Secondary Education.

The fact that these teachers undergo training that equips them with the necessary skills and knowledge as well as teaching methodologies enables them to identify the needs of their position to add value to their students. These findings are in agreement with those of Posner (1992) in a book 'Analyzing the Curriculum' who observed that teachers subject matter knowledge and teaching skills play a significant role in determining the success of a new curriculum. The knowledge and skills they acquire during training also builds confidence in the teachers and gives them a sense of efficacy. This sense of efficacy combined with high expectations for one's students communicates powerfully to students that they can learn and that they will learn (Bruce et al, 1983). An analysis of documents in the sampled schools indicated that schools which were adequately staffed with B.E.D degree holders performed well in the Kenya Certificate of Secondary Education exams. Because these teachers have a good grasp of content in their subject areas they are better placed to cover the syllabus in good time as well as engage their students in thorough revision. However, it is essential that these teachers work in an environment that enables them achieve their best. Having high teaching loads for example can be an impediment to achieving quality grades. The students should also

be available to be taught as long absence of students from school will hamper the effort of the qualified teacher to achieve quality grades.

Analysis of available documents indicated that the starting schools that were understaffed by Teachers Service Commission teachers had high numbers of Form IV Leavers teachers. These schools eventually performed poorly in Kenya Certificate of Secondary Education compared to the established schools which were well – staffed with qualified Teachers Service Commission teachers and never took on board the Form IV Leavers teachers. These finding concur with those of Fatai (2005) who observed that only teachers who are qualified, certificated and competent need to be employed to teach students. It is clear therefore that although the Form IV Leavers teachers may temporally fill the void in the staffing of the starting school, they may in the long term do more harm than good if effort is not made to replace them with the qualified teachers. It is also paramount to ensure equity in staffing so that no students are disadvantaged.

Data obtained from document analysis in the sampled school indicated that the provided housing for teachers always gave preference to female teachers to reside in the school compound. For the cases where there was no housing, the female teachers tendered to reside within close proximity of their schools. This implied that the female teachers were more available and therefore afforded more contact hours with the students. The close proximity of the female teachers also made them easily accessible to students who needed to consult issues regarding academics or guidance and counseling. Further, in most of the sampled schools the guidance and counseling departments were headed by female teachers. This indicated that female teachers came across as caring and nurturing and were good at creating rapport with the students. The students therefore easily approached them in their subject areas causing them to excel. The availability of the female teachers in school also enabled them cover the prescribed syllabus in time, a crucial factor in determining quality performance at Kenya Certificate of Secondary Education; teacher absenteeism was established by Nakhanu (2009) as one of the factors that affect syllabus coverage. Similarly, Anyiin (1998) submitted that nonchalant attitudes of teachers towards teaching was among the fundamental causes of examination irregularities in Nigeria's educational system. The argument here is that if the syllabus is not covered adequately, students are likely to be examined in content they did not fully cover and comprehend, which is likely to lead to poor performance. Effort needs to be made therefore to encourage teachers to be available in school so as to increase their contact hours with the students which would eventually translate into better quality grades and performance at Kenya Certificate of Secondary Education. The other factors, that is teacher qualification (M.Ed), teacher qualification (Diploma), teacher experience, teacher's age, teacher's gender (male) and teaching workload were not significant in influencing students' performance at Kenya Certificate of Secondary Education.

CONCLUSION

Teacher factors had an influence of 59.4% on students' academic performance. Teacher factors were significant predictors of students' academic performance. Multiple regression analysis revealed that Bachelor of Education degree was the highest positive predictor of students' academic performance, followed by female teacher gender, teaching load, while Form fours without training qualification factor was a negative predictor. The other teacher factors, Master of Education qualification, Diploma in Education, teaching experience, teachers' age and male teacher gender were not significant predictors of students' academic performance.

RECOMMENDATIONS

1. Teachers with Master of Education and Diploma in Education should undergo capacity building in their areas of specialization to enhance their performance.
2. Teachers should attend seminars and workshops on impact of teacher experience on performance so that they use their robust experience to enhance the performance of students in academics.
3. The male teachers should undergo in-service training to enhance their performance.
4. Only teachers who are qualified and trained should be employed to teach in secondary schools.
5. The government should ensure that all schools are adequately staffed so that teachers have manageable loads that would enable them provide quality education to learners.

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