INSTITUTIONAL FACTORS AND STUDENT PERFORMANCE: A SURVEY ON PUBLIC SECONDARY SCHOOLS IN HARGEISA CITY, SOMALILAND

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ABSTRACT

Student performance has paramount significance in any education system since it measures mostly the overall achievement of schools. The purpose of the study was to determine the institutional factors influencing students' performance at General Secondary Examinations in public secondary schools in Hargeisa Using survey design, the study selected 11 head teachers, 33 teachers, and 220 learners from 11 public secondary schools in Hargeisa City. Data were collected through questionnaires developed by the researcher. Linear regression analysis were used to test the relationship between selected institutional factors and student performance at General Secondary Examinations at $p < 0.05$. The findings showed that teacher characteristics have not significant influence on student performance but instructional materials and school facilities have significantly influenced student performance at $p < 0.05$. Therefore, resource abundance is crucial factors in improving student performance. Educational policy makers should consider these factors when establishing educational policies.

Key words: Student performance, teacher characteristics, instructional materials, school facilities

1.1 INTRODUCTION

Education is one of the basic human rights of individuals. It is the obligation of the state to provide education. In ancient Greece, Socrates argued that education is cultivating what resides in the minds of students (Yero, 2002). Education is all about modifying the behavior of students in a systematic and meaningful process which has already been prescribed (Peters, 1967). Education can pave the way for transmission of traditional and cultural heritage to younger generations (Peters, 1967). Since education relates to transfer of knowledge, it is important to have methods or ways to measure whether the intended knowledge is transferred properly or not. Student performance measures, such as tests and examinations, are essential to gauge the level of student achievements. Schools organize general tests at the end of each academic year. Likewise, governments also hold centralized examinations across the country to get results that they can compare the performance of students in the different regions, districts, and schools (UNESCO, 2000).

Student performance is affected by many institutional factors in the school system. Teacher characteristics, like teacher qualification and experience, are important determinants on student performance. Researchers (Jepsen, 2005; Kimani, Kara, & Njagi, 2013) showed that teacher's education and higher credentials do not improve student achievement but help teachers to meet their recruitment requirements. However, difference in the influence of teacher qualification exists among subjects taught in schools. Abe (2014) studied mathematics classes and found out that

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students taught by teachers with high qualifications show considerable higher results compared to the results of students taught by teachers with lower qualifications. Likewise, Fakeye (2012) observed that teacher's professional qualification in English language helps student improve their academic achievement. However, according Kosgie (2013), the insignificance of teacher qualification exist in biology subjects in case study of selected secondary in Nandi South District, Kenya. On the other hand, teacher experience, which is teacher's period of service in the teaching environment, is another factor which has its importance in student achievement. Teacher experience play vital role in enhancing student's academic improvement in mathematics and English language in small classes as evidenced by Fidler (2002). Also teachers who teach one grade level more years is related with increased student performance (Huang & Moon, 2009). But Buddin and Zammaro (2009) argued that teacher experience poses weak association with student performance. It cannot become a good predictor of student's academic enhancement (Tella, 2008). Kimani, Kara, and Njagi (2013) are in disagreement with the previous researchers and noticed that high serving teachers do not make difference in student's performance.

Instructional materials are another important factors in considering student achievement in schools. The availability and usage of instructional materials help student to study more and achieve higher scores in examinations (Ifeoma, 2013). It is also crucial for classroom instructions so that students taught with teaching aids show satisfactory results in their tests and they also help students to involve more in practical activities in the classroom and hence enhance quality of teaching (Nwike & Catherine, 2013). The usage of teaching aids differs among subjects. Science and mathematics require more materials than other subjects. With respect to science, especially physics, students who have the fortune of available equipment, whether standardized or improvised equipment, achieve more academically. Improvised equipment help student to study more than standardized equipment (Oladejo, Olosunde, Ojebisi, & Isola, 2011). According to Nsa, Ikot, and Udo (2013), the use of instructional materials in the classroom assist students to transform the teacher's actions into practical manner. However, availability of instructional materials are not so meaningful if they are insufficient in that they may lead to low student performance because some teachers may blame the low performance for the insufficiency of materials (Jotia & Matlale, 2011). Mbugua, Kibet, Muthaa, and Nkonke (2012) stated that Kenyan Certificate of Secondary Education results showed that students earned low grades in mathematics. This was partly attributed to the inadequacy of teaching and learning materials and equipment in the schools.

Student academic achievement can also be attributed to the availability, utilization, and adequacy of school facilities, like library, laboratories, toilets, etc. Eugene (2013) argued that facilities, like furniture, toilets, and classroom assist students to study effectively. He also added that adequacy of these facilities are much crucial so that students can make significant difference in their academic achievement. Special features of the facilities, like their structure, conducive to noise, heat, and comfort, can make students and teachers more satisfied and hence improve the classroom instruction (Schneider, 2002). Not only availability and adequacy of facilities are important but also their utilization is equally significant. Jato, Ogunniyi, and Olubiyo (2014) noticed that the frequent use of library by students contribute to their academic performance. The use of classes in small groups can also lead students to perform well in tests (Schneider, 2002). Suleman, Aslam, and Hussain (2014) argued that well-equipped classes encourage teachers to teach students effectively and positive results may be imminent.

1.2 PROBLEM STATEMENT

Somaliland government has committed to provide quality education to its society. The education system of Somaliland consists of three levels – primary, secondary, and tertiary. The primary education, provided by public schools, is free across the country. Private schools charge students tuition fees. In secondary schools, government's support in tuition fees is minimal (MoE&HS, 2014). Academic performance of students at all levels of the education system is an indicator for the provision of quality education. National Examination Board in Somaliland conduct centralized examinations across the country to evaluate the performance of students. Somaliland government with the help of the international aid agencies has put much emphasis on achieving high academic performance in the public secondary schools (MoE&HS, 2014). Government has conducted several programs to enhance teacher education. These programs include a teacher training programme, called Strengthening Teacher Education Programme for Secondary Schools, was established by the Ministry of Education and aid agencies in 2003. The aim of the program was to strengthen the capacity and skills of teachers in public secondary schools. It also provided materials and facilities to secondary schools. Regardless of the government's commitment to provide quality education, there are still gaps in performance. Students in public secondary schools in Hargeisa City perform unsatisfactorily in the General Secondary Examinations as the results in Table 1.1 indicate.

Table 1
Mean Score of General Secondary Exams for last five years

Hargeisa City	**2010**	**2011**	**2012**	**2013**	**2014**
Private Secondary Schools	B	B	B-	C+	B+
Public Secondary Schools	C	C+	C-	D+	C

Source: Somaliland National Examinations and Certificate Board (SLNECB, 2014)

However, much information about factors influencing student performance in public secondary schools is not available in Somaliland. Therefore, this study endeavored to determine the institutional factors influencing student performance at General Secondary Schools in public secondary schools in Hargeisa City.

1.3 OBJECTIVES OF THE STUDY

The objectives of the study is determine the institutional factors influencing student performance.

1.4 HYPOTHESIS

1. There is no significant influence of teacher characteristics on student performance
2. There is no significant influence of availability and sufficiency of instructional materials on student performance
3. There is no significant influence of availability and use of instructional materials on student performance
4. Availability and sufficiency of school's physical facilities do not have significant influence on student performance
5. Availability and use of school's physical facilities do not have significant influence on student performance

1.5 METHODOLOGY

The study adopted survey research design. All of the Eleven (11) public secondary schools in Hargeisa City were selected. Of these 11 schools, there were 11 head teachers, 351 teachers, and 2191 students. 11 head teachers, 33 teachers, and 220 students were selected using purposive and random sampling methods. Data were collected using questionnaires which consisted of three questionnaires - one for head teachers, one for teachers, and one for students. The reliability of the instrument, 0.70, was tested using Pearson-Product Moment Correlation. Linear regression was used to analyze the data with the help the Statistical Package for Social Sciences (SPSS).

2.0 RESULTS

The study sought demographic information about the head teachers, teachers, and students in order to help in classifying them. The data in Table 2 shows the demographic information of head teachers, teachers, and students.

Table 2

Gender and age of the respondents

Gender	**Head Teacher**	**Teachers**	**Students**
Female	0	6	58
Male	11	24	145
Total	**11**	**30**	**203**
Age	**Head Teacher**	**Teachers**	**Students**
Below 20 yrs	0	0	130
Between 20 – 30 yrs	2	9	73
Between 31 – 40 yrs	4	12	0
Above 40 yrs	5	9	0
Total	**11**	**30**	**203**

According to Table 4.1, all of the head teachers 11(100%), majority of teachers 24 (80%), and majority of learners (71.4%) were males. majority of the head teachers 5 (45.5%) were over 40 years. Moreover, majority of the teachers 12 (40.0%) and 9 (30.0%) were over 30 years old like the head teachers while majority of the learners 130 (64.0%) were less 20 years old.

Hypothesis One:

There is no significant influence of teacher characteristics on student performance

Data in Table 3 shows the analysis of the influence of teacher characteristics on student performance. Two variables relating to teacher characteristics were studies. The variables include teacher's qualification and experience. According to Table 3, the influence of teacher characteristics was analyzed using linear regression. The results show an R-value of 0.103 with an adjusted R^2 of 0.011 which means that 1.1% of variance in student performance is attributed to teacher characteristics. The F-value is 0.202 which is significant at 0.818 ($p < 0.05$). This shows that the joint effect of teacher characteristics is statistically insignificant. Both teacher qualification ($\beta = -0.032$; $t = -0.330$; $p > 0.743$) and teacher experience ($\beta = 0.039$; $t = 0.629$; $p > 0.533$) have little

effect on student performance. Therefore, the study revealed that teacher characteristics were insignificant at 0.818 ($p < 0.05$).

Table 3

Influence of teacher characteristics on student performance

Variables	B	Sta. Error	Beta	t	Sig.
(Constant)	2.660	.229		11.600	.000
Qualification	-.032	.096	-.058	-.330	.743
Experience	.039	.062	.110	.629	.533

(R= 0.103; R^2= 0.11; F= 0.202; Sig. = 0.818)

Hypothesis Two

Availability and sufficiency of instructional materials do not have significant influence on student performance

Table 4 shows results of the influence of availability and sufficiency of instructional materials on student performance. The variables used include textbooks, teaching aids, equipment, reference books, and photocopiers. Their joint effect on student performance was studied. According to Table 4, the influence of availability and sufficiency of instructional materials on learner performance were analyzed using linear regression. The results show an R-value of 0.743 with an adjusted R^2 of 0.543 which means that 54.3% of variance in student performance was accounted for by availability and sufficiency instructional materials. The F-value was 58.744 which was significant at 0.000 ($p < 0.05$). Textbooks showed that they have less significantly to student performance compared to other variables. However, the joint effect of availability and sufficiency of instructional materials were statistically significant. Therefore, the study reveals that instructional materials were significant at 0.000 ($p < 0.05$).

Table 4

Influence of availability and sufficiency of instructional materials on student performance

Variables	B	Sta. Error	Beta	t	Sig.
(Constant)	4.410	.163		27.090	.000
Textbooks	-.048	.022	-.105	-2.221	.027
Teaching aids	-.404	.032	-.598	-12.477	.000
Equipment	-.241	.028	-.401	-8.492	.000
Reference books	-.196	.030	-.315	-6.427	.000
Photocopiers	.144	.028	.268	5.080	.000

(R= 0.743; Adjusted R^2= 0.543; F= 58.744; Sig. = 0.000)

Hypothesis Three

Availability and use of instructional materials do not have significant influence on student performance

In table 5, availability and use of instructional materials were tested. The variables include textbooks, teaching aids, equipment, reference books, and photocopiers. According to Table 5, the influence of availability and use of instructional materials were tested using linear regression. The

results show an R-value of 0.742 with an adjusted R^2 of 0.540 which means that 54.0% of variance in student performance is accounted for availability and use of instructional materials. The F-value is 58.165 which is significant at 0.000 ($p < 0.05$). This shows that the joint effect of availability and use of instructional materials is statistically significant. Teaching aids ($\beta = -0.068$; $t = -3.238$; $p < 0.001$) have less effect than other variables on student performance. Therefore, the study reveals that instructional materials are significant at 0.000 ($p < 0.05$).

Table 5

Influence of availability and use of instructional materials on student performance

Variables	B	Sta. Error	Beta	t	Sig.
(Constant)	3.080	.075		41.319	.000
Textbooks	-.061	.014	-.221	-4.368	.000
Teaching Aids	-.068	.021	-.175	-3.238	.001
Equipment	-.067	.014	-.237	-4.623	.000
Reference Books	-.119	.019	-.320	-6.339	.000
Photocopier	.199	.020	.574	10.069	.000

(R= 0.742; Adjusted R^2= 0.540; F= 58.165; Sig. = 0.000)

Hypothesis Four

Availability and sufficiency of physical facilities do not have significant influence on student performance

Table 6 indicates the results of influence of availability and sufficiency of physical facilities on student performance. Library, toilets, laboratories, classes, office equipment, and playgrounds were tested. The influence of availability and sufficiency of physical facilities were tested using linear regression. The results in Table 8 show an R-value of 0.241 with an adjusted R^2 of 0.058 which means that 5.8% of variance in student performance is attributed to the availability and sufficiency of physical facilities. The F-value is 2.443 which is statistically significant at 0.026 ($p < 0.05$). This indicates that the joint effect of the availability and sufficiency of physical facilities is significant. Classes ($\beta = 0.142$; $t = 2.567$; $p < 0.011$) has less strong effect on student performance. Therefore, the study reveals that influence of availability and sufficiency of physical facilities are significant at 0.026 ($p < 0.05$)

Table 6

Influence of availability and sufficiency of physical facilities on student performance

Variables	B	Sta. Error	Beta	t	Sig.
(Constant)	2.438	.207		11.776	.000
Library	-.038	.035	-.086	-1.074	.284
Toilets	.042	.055	.055	.764	.445
Laboratories	.046	.040	.082	1.152	.250
Classes	.142	.055	.200	2.567	.011
Office Equipment	-.156	.081	-.168	-1.920	.056
Playgrounds	.124	.068	.154	1.835	.068

(R= 0.241; Adjusted R^2= 0.058; F= 2.443; Sig. = 0.026)

Hypothesis Five

Availability and use of physical facilities do not have significant influence on student performance

Table 7 shows the analysis of the influence of availability and frequent use of physical facilities on student performance. Variables tested in the study include library, toilets, laboratories, classes, office equipment, and playgrounds. The influence of availability and frequent use of physical facilities were tested using linear regression. The results in Table 9 show an R-value of 0.347 with an adjusted R^2 of 0.120 which means that 12.0% of variance in student performance is attributed to the availability and frequent use of physical facilities. The F-value is 5.396 which is statistically significant at 0.000 ($p < 0.05$). This indicates that the joint effect of the availability and frequent use of physical facilities is significant. Classes ($\beta = -0.233$; $t = -4.671$; $p < 0.000$) has strong effect on student performance. Therefore, the study reveals that influence of availability and sufficiency of physical facilities are statistically significant at 0.000 ($p < 0.05$).

Table 7

Influence of availability and use of physical facilities on student performance

Variables	B	Sta. Error	Beta	t	Sig.
(Constant)	3.022	.173		17.435	.000
Library	.007	.020	.022	.347	.729
Toilets	-.007	.065	-.007	-.107	.915
Laboratories	.037	.024	.097	1.539	.125
Classes	-.233	.050	-.296	-4.671	.000
Office Equipment	-.028	.023	-.086	-1.221	.223
Playgrounds	.034	.019	.120	1.769	.078

(R= 0.347; Adjusted R^2= 0.120; F= 5.396; Sig. = 0.000)

3.0 DISCUSSION

The study investigated the influence of selected institutional factors, like teacher characteristics, instructional materials, and school facilities on student performance. The study found out that there is no significant influence of teacher characteristic on student performance. This means that teacher's higher level qualification does not matter in improving student's academic achievement. Likewise, teacher's experience does not also account much in student's performance. This study concurs with the researchers (Jepsen, 2005; Kimani, Kara and Njagi 2013) who concluded that the teacher education, experience, and qualifications do not affect student performance. Therefore, the study suggests that higher qualifications and experience do not help students to improve their academic performance.

Instructional materials and student performance were also investigated in the study. The availability, sufficiency, and use of instructional materials were studies. The study showed that the availability, sufficiency, and use of instructional materials have significant effect on student performance. The study agrees with the findings of Nwike and Catherine (2013 and Oladejo, Olosunde, Ojebisi and Isola (2011) who concluded in their studies that the use of instructional materials can make positive effect on student performance. Likewise, the study concurs with the findings of Jotia and Matlale (2011) and Mbugua, Kibet, Muthaa, & Nkonke, (2012) who stated that the insufficiency of teaching and learning materials lead to low performance of students. Therefore, the study suggests that it is important for educational managers and teachers to consider the

availability, sufficiency, and use of instructional materials in the teaching and learning process so that positive results of student performance can be obtained. Teachers should also be trained how to best utilize the teaching and learning materials in their classes.

Finally, the study investigated the influence of school facilities and student performance. The availability, adequacy, and use of school facilities were studies. The study showed that the availability and sufficiency of school facilities, like libraries, laboratories, playground, etc have significant influence on student performance. This concurs with the finding of Eugene (2013) who showed that the availability and adequacy of materials cause considerable difference in student performance. The study also found out that the use of school facilities has significant influence on student performance. The agrees with the findings of Jato, Ogunniyi and Olubiyo (2014) who found out that frequent use of library helps students to achieve more academically. Therefore, the study suggests that building libraries, laboratories, toilets, etc are important for the successful achievement of students and the school itself.

4.0 CONCLUSION

The study concluded that teacher qualifications and experience did not have significant influence of student performance in Hargeisa City public secondary schools. The study also concluded that instructional materials and school facilities were significant in determining student performance. The findings also concluded that there were insufficiency of teaching and learning materials and physical facilities though some of materials and facilities were unavailable. This lack or insufficient instructional materials and facilities may be attributed to the students' low performance in the national examinations. Finally, the findings indicated that institutional factors influence student performance.

5.0 RECOMMENDATIONS

The study recommends that educational planners in the Ministry of Education and Higher Studies should provide sufficient teaching and learning materials to schools in order to improve the performance of the students in examinations. Educational planners should also facilitate in- service training about teaching methods, especially learner-centered methods to teachers so that they can practice the different learner-centered methods in the classroom during instructions which may lead to higher student achievement. School heads should also encourage teachers to use learner-centered methods in the classroom in order to increase students' involvement in the practical activities. Educational planners should also provide adequate physical facilities to schools so to make teaching and learning processes more effective.

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