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A Comparative Study of Pupils' Academic Performance between Public and Private Primary Schools in Lurambi Sub-County, Kenya

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A B S T R A C T

This study sought to explore a comparative analysis of pupils' academic performance between public and private primary schools in Lurambi Sub-County. The study was anchored on Systems Theory, and employed a causal comparative design. It targeted a population of 4992, comprising of 78 head teachers, 390 teachers and 4,426 class 8 pupils of the public and private primary schools in Lurambi SubCounty. Questionnaires, interview schedules and pupil achievement tests were used to collect data. Multi-stage sampling was adopted for selection of participants. The quantitative data obtained by questionnaires and document analysis guides was analyzed by frequencies, means and percentages, while the qualitative data obtained from interview schedules was analysed thematically. Welch's t-test and correlation analysis were used to test the hypotheses to establish the relationship between the dependent and independent variables at $\alpha = 0.05$. The study found that private primary schools performed better academically than public primary schools in Lurambi Sub-County

Keywords: Academic, Comparative, Performance, Schools

1.0. INTRODUCTION

In the United Kingdom, Barrett, et al., (2017) investigated how classroom space impacted holistically on education in selected subjects (Reading, Writing and Mathematics) and the progress of learners in kindergarten to fifth grade. A total of 153 class room spaces were considered and linked to the learning of 3,766 pupils that used the classrooms.The study results indicated that the environment and designing of school infrastructure jointly explicated sixteen percent of the difference in learners' educational progress. The research showed that the designing of educational infrastructure influenced learning through three related factors: "naturalness (light and air quality), stimulation (complexity and color), and individualization (flexibility of the learning space)". While this research was conducted in a developed country, the current study was conducted in the context of a developing country. Furthermore, while Barrett et al., (2017) only focused on classrooms, the current study considered all other school physical resources such as library, school farm, science laboratory among others, and examine their effect on academic performance. Availability, adequacy and quality of school resources contribute to the overall school climate. In California, Jones and Shindler (2016) investigated the link between the "school climate" and learner academic performance. The main objective of the study was to investigate the association between learner achievement and various aspects within the sphere of "school climate", and to explore the potential cause of that connection. Thirty public schools were involved in the study. Questionnaires, and focus groups and achievement tests were used to collect the data. The study established a strong association between the condition of "school climate" and levels of learner performance. While Jones and Shindler (2016) conducted their research in California, the current one was conducted in Kenya, which is relatively less developed.

In Africa, research in various nations has shown a connection to varying degrees between institutional resources and educational achievement. In Somaliland for instance, Abdi (2017) examined institutional factors and their influence on student performance. The study involved eleven headteachers, 33 teaching staff members and 220 students from eleven public secondary schools. The researcher collected data by means of a questionnaire, and used linear regression analysis to test hypotheses. The findings indicated that teacher factors did not significantly affect learners' academic scores, but instructional resources and school infrastructure had significant influence on student performance. The study concluded that resource adequacy was an important factor in improving student performance. While Abdi (2017) focused only on public high schools, the present study focused on primary schools, both public and private for purposes of comparison.

In Kenya, Konyango, Ogeta, Otieno and Orodho (2018) conducted a cross-sectional survey to investigate the impact of school resources on learners' academic achievement in physics. Through purposive sampling, twelve principals, twelve physics teachers and two hundred and four physics students of Form III were selected. The study found that there was inadequacy of teachers of Physics as well as laboratory resources. Proper teaching of the subject was thus encumbered, leading to dismal performance in the subject. Furthermore, the study found that pedagogy was mainly teacher-centered, and both educators and learners had undesirable mindsets towards Physics. The study determined that required resources and appropriate teaching approaches and strategies were key in promoting learner performance in the subject. While the scope of this study was limited to a single subject, the

current study builds on the findings to assess how resources impact on entire school performance. Konyango et al., (2018) also found that instructional techniques determined learners' performance in the context of school resources. The current study thus however considered instructional techniques in the perspective of utilization of resources.Parnwell (2015) examined the influence of school infrastructure on learning in public primary schools in Ruiri location, Meru. The study aim was to investigate influence of school infrastructure on learner achievements in primary schools in Ruiri location. The study concentrated on the effect of library, classrooms, school textbooks and school desks on learning. Survey design was applied, employing questionnaire and observation schedules for data collection. The research involved seven headteachers, fourteen members of teaching staff and 181 Class 8 pupils drawn from the seven target institutions in the study locale.

The inquiry revealed that only one school had a library facility, and most schools lacked adequate learning resources. It was also found that class rooms more pupils than what the classroom space could allow. Most classes lacked paint, plastered walls and cemented floor. The study recommended that school administrators needed to look for funding to establish and equip library facilities in their schools. There was need for schools to put up more classes to increase available class room space for learners. The institutions needed to have sufficient desks. The study also recommended for more investigation to be carried out on how school infrastructure impacts on learner achievement in schools in other region in the country. This recommendation informs the current research. The researcher however, also include private schools in the target population for purposes of comparison and enhancing the generalizability of the research findings.

In Kenya, Kieti (2017) carried out a descriptive survey into "factors influencing students' academic performance in public secondary schools in Matungulu Sub-County, Machakos County". The target population comprised of form III students, teachers and principals. The study sample consisted of 230 learners, 40 members of the teaching staff and 10 school principals. Questionnaire were used to obtain information from the participants. It was then analysed by means of ANOVA and regression analysis. Results showed an insufficiency of instructional resources, which negatively impacted on learner performance. The research also indicated that managerial actions and learner achievement were positively and significantly correlated. Factors relating to teachers and background of the students (both social and economic) influenced academic performance significantly. The study suggested that school managers needed to intensify supervision and scrutiny of teachers' professional records to make sure that ther is compliance to the requirements of professionalism. School managers needed to make certain that appropriate resources were acquired for usage in the teaching/ learning process with a view to promote educational achievement.

2.0 METHODOLOGY

2.1 Research Design

This study used a causal-comparative design that was advanced by Lord (1973). This is a study layout that finds out the cause-effect associations between independent and dependent variables "after an action has already occurred" (Salkind, 2010). This design was preferred because of its suitability in meeting the researcher's goal of determining whether the independent variable (school resources), which the researcher cannot manipulate, has effect on pupils' academic achievement by comparing two groups of participants. The respondents were categorized into the two groups (private and public) and the school resource characteristics of the two groups then compared to produce quantitative as well as qualitative data.

2.2 Theoretical Framework

This study was anchored on the "Systems Theory", which postulates that the process of education can be considered as a complex system, which has inputs and outputs (Taysum, 2017). The components of a system are related or dependent on one another. The Systems Theory was initially propounded by Von Bertalanffy in mid 1930s (Friedman & Allen, 2014). As a biology practitioner, Bertalanffy had interest in mounting a theory of "open systems" in an effort to comprehend how systems give-and-take matter from and to the environment. The systems theory thereafter evolved to apply to diverse natural and societal systems providing a framework to explore phenomena from a holistic approach. As applies to a school, this may be the entire institution or a departmental unit (Mwambi, 2020).

According to the basic system theory, an organization consists of five major parts: "inputs, a transformation process, outputs, feedback, and the environment" (Daft, 2010). Inputs comprise of requisite resources needed to yield goods and services in variety of quantities and qualities. Transformation process involves the applying of production know-how by the organization to convert the inputs into outputs. Outputs refer to the product(s) and service(s) delivered by the organization that have a market worth or usefulness. The systems theory is thus similar to "education production function" (John, 2010). As applied to this study, the input to a school or learning system consists of resources (human, physical or material). These inputs having undergone a process generate outputs, which consists of learners whose performance has improved in some desired way. The outputs can be tested for their quality. The strength of this theoretical approach is that it justifies use of tests as a measure of academic performance (Catherine, 2015).

3.0. RESULTS AND DISCUSSION

The study objective sought to determine the status of academic achievement of public and private primary schools in Lurambi Sub County. To achieve this, a standard achievement test in Mathematics, English and Social Studies and Religious Education was administered to Class 8 pupils from the sampled schools, which was then marked and analysed. Table 1 and Table 2 show the results of this analysis.

Table 1: Test Achievement of Class Pupils in Private Primary Schools in Lurambi Subcounty

School	n	Maths	English	SSRE	Total
Private 1	25	89.84	85.93	87.00	262.57
Private 2	6	84.33	77.50	78.43	240.26
Private 3	5	84.00	87.33	86.94	258.27
Private 4	5	78.40	79.16	75.77	233.33
Private 5	45	81.73	76.77	79.23	237.73
Private 6	17	85.52	91.27	88.38	265.17
Total	**103**	**503.82**	**497.76**	**495.72**	**1497.30**
Mean		**83.97**	**82.96**	**82.62**	**249.55**

In the private primary schools, Mathematics posted the highest mean mark (83.97), followed by English (82.96) and lastly SSRE (82.62).

Table 2: Test Achievement of Class Pupils in Public Primary Schools in Lurambi subcounty

School	n	Maths	English	SSRE	Total
Public 1	24	65.52	77.75	55.57	198.84
Public 2	44	67.51	76.77	54.58	198.86
Public 3	94	64.02	73.42	61.24	198.68
Public 4	15	30.28	30.00	26.23	86.51
Public 5	45	67.72	82.08	77.35	166.15
Public 6	16	27.25	22.62	20.32	70.19
Public 7	9	37.15	25.55	32.46	95.16
Public 8	6	72.00	71.66	68.24	146.90
Public 9	10	24.89	74.80	50.36	150.05
Public 10	18	91.76	84.66	78.48	254.90
Public 11	7	57.00	50.00	52.00	159.00
Public 12	15	22.88	78.93	83.46	185.27
Public 13	23	24.58	27.73	34.86	87.17
Total	**326**	**652.56**	**775.97**	**695.18**	**2123.71**
Mean		**50.19**	**59.69**	**54.47**	**163.36**

In the Private primary schools, English posted the highest mean mark (59.69), followed by SSRE (54.47) and lastly Mathematics (50.19).

A Welch's t-test was performed to relate academic achievement of the two categories, that is, private primary schools and public primary schools. This was done under the null hypothesis that:

H0: There is no significant difference in academic achievement between public primary schools and private primary schools in Lurambi Sub-County.

The results of the test are presented in Table 3.

Table 3: Welch's T-test Results for Comparative Academic Performance

	Welch Statistic[a]	df1	df2	Sig.
Mathematics	26.175	1	13.350	.000
English	10.421	1	14.738	.006
SSRE	22.920	1	15.093	.000
Overall performance	34.141	1	14.858	.000
a. Asymptotically F distributed.				

It was found that there was a statistically significant difference in pupil performance in Mathematics [F (1, 13.350) = 26.175], English [F (1, 14.738) = 10.421], SSRE [F (1,15.093) = 22.920] and the overall performance [F (1, 14.858) = 34.141] between private and public primary schools, p < 0.01 at α = 0.05. Therefore, the null hypothesis was rejected. Therefore, the private primary schools performed better than public primary schools in the achievement test. This agrees with the concern that a majority of the top 100 candidates in KCPE in Kenya come from private schools (Catherine, 2015). According to Shibo (2016), private schools post a better academic performance than public schools. Adeyemi (2014) in a comparative study of pupils' academic performance between private and public primary schools found that pupils in private schools performed better than their counterparts in public schools.

4.0. CONCLUSIONS

Based on the above results, this study concludes that there is difference in academic achievement between public primary schools and private primary schools in Lurambi Sub County, Kenya.

5.0. RECOMMENDATION

The Ministry of Education in consultation with relevant stakeholders should establish deliberate strategies and mechanisms for enhancing academic achievement of learners in public primary schools, which the study found had comparatively lower performance.

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