



Community Involvement in Infrastructural Development and Academic Performance in Public Day Secondary Schools in Bumula Sub County, Kenya

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ABSTRACT

This study investigated the influence of community involvement in provision of school infrastructure on academic performance of public secondary day schools in Bumula Sub County. The study population was 43 public day secondary schools with a total of 233 respondents, whereas the sample was 160 respondents. The sample comprised of 30 representative from the local community, 30 teachers' representative, 30 PA representative, 30 principals, 30 BOM chairs and 10 Educational and National government administration officials. The study adopted stratified sampling procedure to identify sub-groups in the target population where sub-groups comprised of; Principals, BOM Chairs, PA representatives, teacher representatives to BOM and representatives from the local community, Ministry of Education and National Government Administration. Purposive sampling was used to select public day secondary schools because they had the required information that the researcher needed. The study used questionnaires and interview schedule to collect data. The data collected was analysed using descriptive statistics; frequencies, percentages, means and standard deviation for quantitative data. Qualitative data was analysed thematically using content analysis method. SPSS programme was used in data coding, entry and analysis. The findings revealed that although community members supported school infrastructural development, it has no significant influence on the academic performance of learners.

Key Words: *Academic Performance, Community, Involvement, Infrastructure, Provision*

1.0 INTRODUCTION

An effective school infrastructure resource is responsive to the changing programmes of educational delivery, and at a minimum level should provide a physical environment which is accessible, aesthetically pleasing, well illuminated, comfortable, secure, safe, and well ventilated Quansah and Akobour (2015). The school infrastructure consists of not only the physical structure and the variety of buildings, such as classrooms, administration blocks, toilets/latrines, kitchens, dorms or stores. The infrastructure also includes furnishings, materials and supplies, equipment and information technology, as well as various aspects of the school playing grounds like, athletic fields, playgrounds and other areas for extracurricular learning.

The school infrastructure is much more than a passive container of the educational process: it is, rather, a significant constituent of conditions of learning. The layout and design of an infrastructure results to the best experience of students, teachers, support staff and community members. Depending on the quality of infrastructure design and management, the infrastructure can contribute to a sense of ownership, safety and security, personalisation and control, privacy as well as sociality, and crowdedness or spaciousness. When planning, designing, or managing the school facility, these facets of place experience should, when possible, be taken into consideration through involvement of all stakeholders including members of the local community. Wedam, Quansah and Akobour (2015) indicated that community involvement approach in the planning of infrastructure assist to mobilize and generate adequate resources from national government and the community in the implementation of educational projects. Further, community involvement also assists to ensure sustainability of the infrastructure facilities constructed because communities perform a management role. Various research studies have been conducted in relation to community involvement in infrastructure provision and academic performance as described in the next sub-sections.

In South Africa, Mojela (2013) presented findings on the current state of public school's infrastructure and various factors which contribute to the dilapidated state of public schools' infrastructure. A set of multiple questionnaires were designed to collect data from 34 public schools in Gauteng Province of South Africa. The field survey comprised of Department of Education Officials, maintenance contractors, school governing body members, school Teachers, school principals and community members. The main factors include that maintenance works are undertaken in a disjointed manner with no clear strategy, inadequate government intervention, no sense of ownership for the schools by learners, teachers, parents and community members, inadequate funds allocated to schools, vandalism, lack of maintenance, funds not allocated based on individual school needs, neglect, deferred maintenance and overcrowding. The lack of now ownership by community members reflect their low involvement in infrastructure support which this study seeks to determine.

In Tanzania, Kambuga (2013) assessed the function of community involvement in construction of ward based secondary schools in Nzunguni and Makulu in Dodoma Town. Information was collected from ward education officers, village members, village leaders and ward executive officers totaling to 35 through interviews. The interview guide was semi-structured. Result showed that community involvement in construction of ward secondary schools happened through labour power contribution and monetary contribution. Kambuga found out that villagers were not actively involved in planning, decision making, monitoring and evaluation of the construction project. The study by Kambuga was conducted in Tanzania whereas this study seeks to determine areas of infrastructure facilities that community members are involved and their influence on academic performance of schools.

In Ghana, Wedam et al. (2015) study assessed if there existed relationship between community involvement in educational infrastructure and education participation by students in schools. The respondents for the study included district director of education, school heads, teachers, assembly men in the community, opinion leaders and district chief executive. Data was collected through focus group discussions, observations and questionnaire. It was found out that local communities had been initiating educational infrastructure for a very long time now with the aim of reducing overcrowding in schools. It was found out that 55.0% of community built kitchens, 6% classrooms, 2% water storage facilities, 1% teacher quarters, 28.0% urinary facilities and toilets while 8% built playgrounds. It was also found out that cash, labour, land and provision of food inter alia were the main areas where communities participated in the provision of educational infrastructure. Associated effects of community involvement in the provision of educational infrastructure were increased in retention and transition of learners. The gap created from Wedam et al. is that the dependent measure was retention and transition of learners while this study examined how community involvement influences academic performance.

In Kwa Zulu Natal, Cele (2016) examined the extent to which schools are supported towards infrastructure planning and facility management in iLembe District. A quantitative study approach was adopted. A survey was conducted at KZNDoE schools, targeting iLembe district, in which 100 schools were selected out of 123. Questionnaire was used to collect data. The study discovered that there was unsatisfactory health and safety ethics in schools; exposed poor infrastructure management; ignored learning environment in schools. With regard to community involvement, the study found out that there was inadequate support on infrastructure planning and facilities management. Different from this study, this study seeks to identify community involvement in infrastructure provision and how it affects academic performance of public day secondary schools.

In D.R.C., Machozi (2018) assessed the effect of community driven development approach on educational infrastructure in Irunu Territory. The study adopted descriptive survey design with qualitative and quantitative approaches. The target population was 3000 and participants included beneficiaries and project 'staff. Questionnaires and interview guide questions were used to collect primary data. The study revealed that community empowerment significantly affected educational infrastructure. Furthermore, the study revealed that accountability significantly affected educational infrastructure. In order to stimulate strong ownership, a community contribution (construction materials or labor) was required in term of 10% of the total amount of the investment. The gap existing in D.R.C., Machozi's (2018) study is that it does not capture the effect community driven development approach on academic performance of schools. This is however captured in this study.

1.2 Purpose of the Study

The purpose of the study was to investigate the influence of community involvement in provision of infrastructure on academic performance of public secondary day schools in Bumula Sub County.

1.3 Significance of the Study

The study was expected to have practical, policy and theoretical significance to the following institutions and individuals; board of management of secondary schools (including principals), teachers, parents, students, government, other members of community and future scholars in educational management. At first, it was expected that board of management of public secondary schools will benefit from the study findings since it will draw their attention to realise the significance of the relationship between community and schools in the management of secondary schools. This may result in provision of necessary assistance to the school by the community to address gaps that they are experiencing. The students are the main beneficiaries as recommendations will be made on what constructive roles the local community would play towards providing the needed infrastructural resources to aid their learning.

2.0 METHODOLOGY

2.1 Research Design

A study design is a master plan, specifying the methods and procedures for collecting and analysing the needed information (Zikmund, 2013). The most attractive feature of this design is that it enhanced direct generation of information which creates the opportunity for in-depth responses through sharing on the past present and future possibilities that provided a good understanding of the phenomena under study. It thus constitutes a blueprint for the collection, measurement, and analysis of data (Kothari, 2003).

Descriptive research design is commonly used when examining social issues that are in communities like education, gender and culture. This study adopted a descriptive survey research design as it helps in drawing valid conclusion from facts that have been discussed. Descriptive survey research is normally conducted to gain certainty and to describe the variables that are a characteristic of a given situation and therefore it is the best method for collecting original data from a population that is too large to be observed directly (Sekaran and Bougie, 2016). According to Cooper and Schindler, (2014)

descriptive research design addresses the 5Ws (who, what, when, where and how) questions regarding the research problem. It gives researchers an opportunity to use quantitative data in order to find out common features about the population or phenomenon being studied (Carr & Griffin, 2010).

2.2 Sample Size and Sampling Procedures

The study used stratified sampling to identify sub-groups in the target population; the sub-groups were principals, BOM chair, PA representative, teacher representative to BOM, representative from the local community and education and national government administration. Purposive sampling is a method used to select the subjects who had the required information (Oso and Onen 2009). Therefore purposive sampling was used to select public day secondary school because they had the required information the researcher needed. Simple random sampling was used to select samples without bias from the accessible population; it was justified because it accorded each member of the population equal and independent chance of being selected and independent choice.

A sample is a smaller group obtained from the accessible population. This research drew a sample size using Yamane's formula. The sample size was determined from target population using the Yamane's while that of management was determined using Yamane's formula (Yamane, 1967).

$$n = \frac{N}{1 + N(e^2)}$$

n = the desired sample size

N = the total population

e = the level of statistical significance

Therefore the sample size for teaching staff and non-teaching staff is

$$n = \frac{233}{1 + 233(0.05^2)} = 148$$

$$\text{Non-response} = \frac{5}{100} \times 233 = 12$$

$$\text{Total sample size} = 147 + 13 = 160$$

The sample size for each strata was determined using proportionate stratification approach. With proportionate stratification, the sample size of each stratum is proportionate to the population size of the stratum. Strata sample sizes are determined by the following equation.

$$n_h = \frac{N_h}{N} \times n$$

Where

$$n_h = \frac{N_h}{N} \times n$$

n_h = sample size for strata

N = the total population size

n = the total sample size

N_h = population size for strata

$$n_h = \frac{43}{233} \times 160 = 30$$

Table1. Sample size

Target Population (N)	Sample Size (n)	%
BOM Chairs	43	30
PA representatives	43	30
Principals	43	30
Teacher Representatives to BOM	43	30
Local community Representative	43	30
Education &govt officials	18	10
Total	233	160

3.0 RESULTS AND DISCUSSIONS

3.1 Community Involvement in Provision of School Infrastructure on Academic Performance

The researcher sought to find out the extent to which the community assists in infrastructure support for schools. Quantitative data was analysed into frequency distribution. The mean, the standard deviation (SD) and the composite mean were computed. The result is presented in Table 2

Table 2: Likert on school infrastructure support

Areas of support	Never (N)	Seldom (Se)	Sometimes (S)	Frequently (F)	Always (A)	Mean	SD
Renovation of school buildings	74 (49.3%)	36 (24.0%)	35 (23.3%)	5 (3.3%)	-	1.81	0.91
Repairs of school furniture	96 (64%)	26 (17.3%)	20 (13.3%)	8 (5.3%)	-	1.60	0.92
Offering free labour in school projects	136 (90.7%)	11 (7.3%)	3 (2.0%)	-	-	1.11	0.37
Provision of construction materials e.g. sand and blocks	44 (29.3%)	15 (10%)	77 (51.3%)	14 (9.3%)	-	2.41	1.01
Cash infrastructure towards infrastructure facilities	54 (36%)	12 (8%)	84 (56%)	-	-	2.20	0.94
Digging of boreholes	130 (86.7%)	8 (5.3%)	12 (8%)	-	-	1.21	0.57
School fencing	120 (80%)	9 (6%)	12 (8%)	9 (6%)	-	1.40	0.88
Composite mean and SD						1.67	0.53

The study sought to evaluate if the influence of community involvement in provision of school infrastructure support on academic performance of public day secondary school in Bumula Sub-county had realized the planned support, from the Likert scale in Table 2, the results showed that 110 (73.3%) were of the opinion that the renovation of school buildings were never supported by the community, 5(3.3%) were of the opinion that renovations of school building were frequently supported by the community while 35(23.3%) were of the opinion that the renovations of the school building are sometimes supported by the community. The mean score was 1.81 with a standard deviation of 0.910 which shows that most respondents were in agreement that most school buildings were never renovated by the community. The item mean was above the composite mean of 1.67 indicating a positive influence on the composite mean. The standard deviation for the item was also above the composite standard deviation of 0.53 indicating a wider spread in response for the item than the variable.

On whether the community is involved in the repairs of school furniture, 122(65%) of the respondents were of the opinion that the community never involves, 8(5.3%) were of the opinion that the community often involves while 20(13.3%) were of the opinion that the community sometimes involves in repairs of the school furniture. The mean score was 1.60 with a standard deviation of 0.92 which shows that most respondents were in agreement that

most school furniture's are never repaired by the community. The item mean was below the composite mean of 1.67 indicating a negative influence on the composite mean. The standard deviation for the item was above the composite standard deviation of 0.53 indicating a wider spread in response for the item than the variable.

The study also sought to find out whether the community offers free labour in school projects. The analysis of results shows 147(98%) of the respondents were of the opinion that the community never offers free labour while 3(2%) of the respondents were of the opinion that the community sometimes offers the free labour in school projects. The mean score was 1.11 with a standard deviation of 0.37 which shows that most respondents were in agreement that the community never offers free labour. The item mean was below the composite mean of 1.67 indicating a negative influence on the composite mean. The standard deviation for the item was below the composite standard deviation of 0.53 indicating a smaller spread in response for the item than the variable.

On provision of construction materials e.g. sand and blocks by the community, 59(39.3%) of the respondents were of the opinion that the community never provides, 14(9.3%) were of the opinion that the community provides while 77(51.3%) were of the opinion that the community provides construction materials. The mean score was 2.41 with a standard deviation of 1.01 which shows that most respondents were in agreement that sometimes the community provides construction materials. The item mean was above the composite mean of 1.67 indicating a positive influence on the composite mean. The standard deviation for the item was above the composite standard deviation of 0.53 indicating a wider spread in response for the item than the variable.

The study also sought to find out whether the community offers cash money towards infrastructure facilities in school, 66(44%) of the respondents were of the opinion that the community never offers cash money while 84(56%) of the respondents were of the opinion that the community sometimes offers cash money for the infrastructure facilities. The mean score was 2.20 with a standard deviation of 0.94 which shows that most respondents were in agreement that sometimes the community offers cash money for the infrastructure facilities. The item mean was above the composite mean of 1.67 indicating a positive influence on the composite mean. The standard deviation for the item was above the composite standard deviation of 0.53 indicating a wider spread in response for the item than the variable.

On whether the community involves itself on digging of boreholes, 138(92%) of the respondents were of the opinion that the community never involves itself while 12(8%) of the respondents were of the opinion that sometimes the community involves itself in digging of bore holes. The mean score was 1.21 with a standard deviation of 0.57 which shows that most respondents were in agreement that the community never involves itself in digging bore holes. The item mean was below the composite mean of 1.67 indicating a negative influence on the composite mean. The standard deviation for the item was above the composite standard deviation of 0.53 indicating a wider spread in response for the item than the variable.

The study also sought to find out the extent to which the community involves itself in fencing of school, 129(86%) of the respondents were of the opinion that the community never involves itself, 9(6%) were of the opinion that the community frequently involves itself while 12(8%) were of the opinion that the community sometimes involves itself in school fencing. The mean score was 1.40 with a standard deviation of 0.88 which shows that most respondents were in agreement that the community never involves itself in fencing school. The item mean was below the composite mean of 1.67 indicating a negative influence on the composite mean. The standard deviation for the item was above the composite standard deviation of 0.53 indicating a wider spread in response for the item than the variable.

The study sought to investigate the influence of community involvement in management on academic performance of public day secondary schools in Bumula Sub County. To establish this, simple linear regression test was used. The study utilised the following null hypothesis which was tested at 0.05 level of significance.

H₀: There is no community involvement in provision of school infrastructure on academic performance of public day secondary schools in Bumula Sub County.

Table 3a: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.550 ^a	.513	.604	.557

a. Predictors: (Constant), Community support in school infrastructure

b. Dependent Variable: Academic performance

Table 3b: ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.116	1	.116	.374	.542 ^b
	Residual	45.857	148	.310		
	Total	45.973	149			

a. Dependent Variable: Academic performance

b. Predictors: (Constant), Community support in school infrastructure

Table 3c: Regression coefficients

Coefficients		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	2.741	.150		18.222	.000
	Community support in school infrastructure	-.017	.012	-.050	-.612	.542

a. Dependent Variable: Academic performance

In Table 3a-c, A Simple linear regression model was fitted to explain academic performance based on community support in school infrastructure. All of the assumptions of regression analysis were. The overall model explains 51.3% variation of academic performance, and it is not significantly useful in explaining academic performance, $F(1, 148) = 3.548, p > .05$. With one-unit increase in community support in school infrastructure, the academic performance decreases by .017, which was not found to be a significant change, $t(148) = -0.612, p > .05$. Therefore at 5% level of significance the null hypothesis was accepted. This indicated that there is no community involvement in provision of school infrastructure on academic performance of public day secondary schools in Bumula Sub County. These findings are also in line with the findings of the interview responses from the government officials. The responses from the interviews indicated that involvement of the community on provision of infrastructure is very minimal because most school infrastructural facilities are financed by the ministry of Education and the NG-CDF. However, the researcher found out that in as much as infrastructure in schools was financed by the MoEST and the NG-CDF, infrastructural facilities were very due the 100% transition policy. It is of the view of the researcher that if the community is allowed to fully participate on the provision of school infrastructure, this will have an impact on the academic performance of learners.

4.0 CONCLUSION

The study concludes that community involvement in infrastructural provision has no statistical significant influence on the academic performance

5.0 RECOMMENDATION

Based on the findings of the research, the study recommends that cost-sharing policy should be enacted to govern infrastructural provisions in schools whereby the community, through parents should contribute 10% to all infrastructural facilities in their schools to help ease congestion in schools and this will have a positive impact on the academic performance of learners.

REFERENCES

- Borg, W., Gall, J., & Gall, M. (2003). *Educational research: An introduction* (7th ed.). Boston: Pearson Education.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education* (7th ed.). Abingdon: Routledge.
- Kambuga, Y. (2013). The Role of Community involvement in the Ongoing Construction of Ward Based Secondary Schools: Lessons of Tanzania. *International Journal of Education and Research*, 1(7), 1 – 10.
- Machosi, D.F. (2018). *Community Driven Development Approach (CDDA) and educational infrastructure in eastern recovery project, Irumu territory Democratic Republic of Congo*. MA Thesis, Kampala International University, Uganda.
- Mojela, T.W. (2013). *Assessment of the Effectiveness of Public Schools Infrastructure Maintenance System in the Gauteng Province*. M.Tech Dissertation, University of Johannesburg, South Africa.
- Ugwuanyi, F. N. (2013). *Community involvement in the Administration of Secondary Schools in Nsukka Education Zone of Enugu State*. B. Ed project, Department of Educational Foundations, U.N.N. 126p.
- Wedam, E., Quansah, J. Y. D. & Debrah, I. A. (2015). *Community involvement in educational infrastructure development and management in Ghana*. Retrieved from; <http://article.sapub.org/10.5923.j.edu.20150505.02.html>