



Influence of School Environmental Factors on Teaching and Learning Process in Public Primary Schools: A Case of Bungoma County, Kenya

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Abstract

School environment affects the teaching-learning process. This paper presents the findings of a study undertaken to investigate the influence of school environmental factors on the teaching-learning process in public primary schools in Bungoma south sub-county, Bungoma County, Kenya. A descriptive survey research design was used. The target population was the Head Teachers/deputy head teachers, Class Teachers, and Pupils in the Public Primary Schools in Bungoma south Sub-county, Bungoma County. Stratified sampling, Simple random sampling and Purposive sampling were used. A sample size of 30 % of the target population was used. Primary data was collected using Questionnaires and Focus group discussions. Data was analysed using statistical package for social sciences (SPSS). Results of this study showed that sufficiency of physical facilities specifically adequacy of classrooms significantly affect the teaching-learning process. Those who reported having adequate classrooms performed better than those who reported inadequacy ($Z=1.776, 0.046$). Sufficiency of instructional materials, Class size, and School location does not significantly affect the process of teaching and learning. The study concluded that among the school environmental factors, physical facilities particularly adequacy of classrooms, was the only factor that significantly affected teaching and learning and therefore recommends that National and County governments should ensure that classrooms are adequate in Public primary schools.

Key words: School environmental factors, Teaching-learning process

INTRODUCTION

The school environment refers to factors within the school that influence the teaching-learning process. The school environment includes classrooms, teaching learning materials, library, technical workshops, teachers' quality, teaching methods, peers, among other variables that can affect the teaching-learning process. Instructional materials are a major component in the process of teaching and learning and textbooks are often the most cost effective means of improving academic achievement and increasing the efficiency of schools (Ajayi, 2001; Mege, 2014).

The Kothari Commission (1966) of India noted that the destiny of India was being shaped in the classrooms and that because the students are the backbones of the nation, it is important to maintain a healthy school environment. In Ghana, inequality in educational resources and hence differences in the school environment had affected the quality of education in the Country (Dadze, 2010; Osei-Tutu, 2014; Hienno, 2005).

In Uganda, physical characteristics of the school have a variety of effects on the teachers, pupils and the learning process. Poor lighting, noise, high levels of carbon dioxide in classrooms and inconsistent temperatures make teaching-learning process difficult. Poor

maintenance and ineffective ventilation systems lead to poor health among the pupils and higher absentee rates among pupils (Frazier, 2002; Lyons, 2001; Ostendorf, 2001).

The extent to which pupils learn could be enhanced depending on what the school environment provides to the learners and the teacher. Further, it was believed that a well planned school was to gear up expected outcomes of education that was to facilitate good social, political and economic emancipation, effective teaching-learning process and academic performance of pupils (Mege, 2014). It is also reported that safe and orderly classroom environment and school facilities were significantly related to students' academic achievement in schools (Williams, et al, 2008).

In Kenya, a study on Influence of School Environment on teaching-learning process conducted by Mege (2014) found that inadequacy of physical facilities in schools and insufficiency of instructional materials in schools has great influence on the teaching-learning process.

Statement of the Problem

The Government of Kenya has provided Free Primary Education as a way of ensuring that all children attend school. However, Rasto (2015) noted that there was low enrolment in Bungoma County especially in Mt. Elgon and Bungoma North sub-counties. This was attributed to insufficient teaching and learning resources and physical facilities. According to Mutai (2006), most rural schools also have dilapidated buildings which affect the teaching and learning process. Effective teaching-learning process may not be assured with the foregoing problems in Bungoma County. There is limited information in Bungoma south sub-county, Bungoma County on the influence of school environmental factors. Therefore this study found out the relationship between school environmental factors and the teaching-learning process in Bungoma south sub-county, Bungoma County, and made recommendations on improvement.

Objective of the study

The objective of the study was to investigate the influence of school environmental factors on the teaching-learning process in public primary schools in Bungoma south sub-county, Bungoma County, Kenya.

Theoretical framework

The study was guided by Systems theory of organizations as advanced by Ludwig Von Bertalanffy (1969). According to this theory, all parts of an organization are interrelated and that when one part of the school system is altered the other parts are also affected. The theory views school organization as a complex social system whose properties cannot be known from analysis of the constituent elements in isolation hence for effective management of the teaching-learning process, emphasis should shift from part to whole.

The systems theory as applied to this study states that the different factors in the system that influence the teaching-learning process must be managed together but not in piece meal. The holistic approach is considered a better way to achieve effective teaching and learning. The performance of a system depends on how the elements work together and not how each element works independently (Mege, 2014).

LITERATURE REVIEW

School Environment means the extent to which school settings promote student safety and student health, which may include topics such as the physical plant, the academic environment, available physical and mental health supports and services, and the fairness and adequacy of disciplinary procedures, as supported by relevant research and an assessment of validity (Zais, 2011).

In Ghana, educational infrastructural development is unequally shared by the Ghana Education Trust Fund Secretariat (Hienno, 2005). Whereas some schools were well resourced in terms of infrastructure, personnel and instructional materials, others have inadequate classrooms, personnel and teaching – learning materials. This inequality in resources has affected the quality of education in the Country (Dadze, 2010; Osei-Tutu, 2014).

Ensuring that all the school learning facilities are adequate and that they are in good condition creates conducive environment for learners and also supports learning. Education is advocated for in most of the states across the globe to equip their citizens with values, skills and knowledge that will enable them to build their societies and eliminate inequality and disparity (Newmann, 1992). The success of schools can be measured through the good performance posted by the students in those schools.

Availability and the efficiency of physical facilities have a positive impact on students' academic performance while Lack of these facilities leads to negative impact on academic performance. Taylor and Vlastor (2009) argue that adequate physical facilities strengthen and encourage the academic performance of schools. The learning process can be enhanced through creating conducive learning environment that favors learning by ensuring that the classrooms are arranged properly. Based on Taylor and Vlastor (2009) argument the setting of the classroom adds value to the teaching and learning process thus resulting in academic success unlike when there are no facilities. According to Lyons (2001), learning in a well-structured classroom improves cooperation between the teacher and the students' hence good students' performance. On the other hand, when the students are uncomfortable in the classroom, they tend to post poor results in their academic performance due to communication barrier between the teacher and the students. Therefore, teachers' effectiveness and students' academic performance can be greatly influenced by poor school facilities.

In Kenya, Onyara (2013) found a direct relationship between the students' performance and availability of school physical facilities. This is in line with Mwangi and Nyagah (2011) who argued that good academic performance is contributed to by the availability of school buildings and other appropriate plans thus resulting to effective teaching and learning activities. High educational performance can as well be achieved through having a pleasant atmosphere and other physical facilities such as latrines and playgrounds.

METHODOLOGY

A descriptive survey research design was used. Descriptive survey research describes behaviours by gathering people's perceptions, opinions, attitudes and beliefs about a current issue such as Educational Issues. The Descriptions are then summarized by reporting the

number or percentage of persons reporting each response. According to Aggarwal (2008), descriptive research is devoted to the gathering of information about prevailing conditions or situations for the purpose of description and interpretation. This type of research method is not simply amassing and tabulating facts but includes proper analyses, interpretation, Comparisons, identification of trends and relationships.

The study was conducted in Bungoma south Sub-county, Bungoma County, Kenya. Bungoma County is located in Western region of Kenya, has a population of 1,375,063 people and an area of 2,069 KM². The economic activity of Bungoma County is mainly agricultural, centering on the sugar cane and maize industries. The area experiences high rainfall throughout the year and is home to several large rivers which are used for small scale irrigation. Bungoma County has 9 sub-counties namely Bumula, Bungoma south, Sirisia, Kabuchai, Kimilili, Tongaren, Webuye East, Webuye West and Mt. Elgon (Bungoma Development Plan, 2016).

Target Population

According to Kohler *et al.*, (2018), population is an entire group of individuals, events or objects having a common observation. The target population was the Head Teachers/ Deputy Head Teachers, Class Teachers and Pupils in the Public Primary Schools in Bungoma south Sub-county, Bungoma County Kenya.

Sampling Procedure

Bungoma south sub-county was stratified into three zones because the sub-county is not homogeneous. If a population from which a sample is to be drawn does not constitute a homogeneous group, stratified sampling technique is generally applied in order to obtain a representative sample (Kothari & Garg, 2014). Simple random sampling was used in the zones to identify schools. Purposive sampling was used within each school to select the Head teacher/ Deputy Head teacher and also to select the Class Teachers in Class Six and Class Seven. In a case where there was more than one stream in a school, simple random sampling was then used to select one stream and purposive sampling was used to select the class teacher. Pupils in Class Six and Class Seven were selected through simple random sampling to participate in Focus Group Discussion (FGD) because these were the pupils who could comprehend questions. Class Eight were left out of the study because of being an examination class.

Sample size

In this study a sample of 30 % of the target population was used. This is because Mugenda & Mugenda (2003) recommended that for descriptive studies, ten percent or above of the accessible population is enough for the entire study. Therefore 30 % (27) of 91 Schools were sampled. The study used Head teachers/Deputy Head teachers of the sampled schools (27) and also Class teachers of Class Six and Seven from the sampled schools. One class teacher from class six and one class teacher from class seven from each school was sampled. This translated to 54 class teachers. Eight pupils (4 boys and 4 girls) from each sampled school were selected to participate in the FGD which gave a total of 216 pupils.

Research instruments/tools

Primary data was used in this study. The Primary data was collected using Questionnaires and Focus group discussion guides (Kothari & Garg, 2014; Monishankar and Garcia, 2017).

Data Analysis

The Primary data that was collected through the Questionnaires and Focus group discussions was cleaned, coded and entered into the computer for analysis using statistical package for social sciences (SPSS) version 20 for Windows. Descriptive statistics was used to analyze quantitative data and findings presented in Frequency tables and charts.

RESULTS AND DISCUSSION

The influence of school environmental factors on the teaching-learning process is shown in Table 1.

Table 1: Influence of school environmental factors on the teaching-learning process

Factor	Learning process (performance)		P-value
	Below 50%	50-70%	
Adequacy of physical facilities	18.4(SD5.8)	18.5(SD4.1)	0.950
Sufficiency of instructional materials	22.2(SD5.4)	21.1(SD4.0)	0.429
Class size	42.2(SD 6.3)	41.6(SD7.1)	0.768
Location of the school			
Rural	8(25.8%)	23(74.2%)	0.946
Urban	6(25%)	18(75%)	
Gender			
Male	6(23.1%)	20(76.9%)	0.442
Female	10(32.3%)	21(67.7%)	
Age-bracket			
31-40	9(33.3%)	19(66.7%)	0.556
41-50	6(30%)	14(70%)	
=>50	1(11.1%)	8(88.9%)	
Highest academic level			
P1	9(31%)	20(69%)	0.946
Dip	6(40%)	9(60%)	
BED	1(9.1%)	10(90.9%)	
Med	0(0.0%)	2(100%)	
Duration in the current station	6.6(SD 5.9)	6.7(SD 5.7)	0.953

Higher scores in performance were related to adequacy of physical facilities, smaller class size but not sufficiency of instructional materials. Higher proportion of schools in urban areas performed better than their counterparts in the rural areas. Schools with higher proportion of female teachers reported better performance on average compared to those with higher proportion of male teachers. Average performance increased with increase in age bracket of the teachers as well as increase in highest academic.

The effect of adequacy of physical facilities on the teaching-learning Process is shown in Table 2.

Table 2: Effect of adequacy of physical facilities on the teaching-learning Process

Physical facilities	Performance		Statistic (Z)	P-value
	<50%	50-70%		
Staffroom	32.0	27.8	0.884	0.377
Classroom	23.1	31.3	1.776	0.046
Toilets	27.4	29.6	0.510	0.610
Library	27.6	28.9	0.267	0.789
Playing Ground	30.8	28.3	0.520	0.603
Desks and tables	29.4	28.9	0.115	0.909

Non parametric statistics (Mann Whitney U-test) indicated that among the physical facilities, adequacy of classrooms was significantly associated with teaching and learning (performance) (Table 2). Those who reported having adequate classrooms performed better than those who reported inadequacy ($Z=1.776$, 0.046) as shown in Table 2.

Results of this study showed that sufficiency of physical facilities specifically adequacy of classrooms significantly affect the teaching-learning process. Sufficiency of instructional materials, Class size, and School location does not significantly affect the process of teaching and learning. These findings concur with the findings of Nepal and Maharjan (2015). There were no significant difference with respect to four types of physical facilities such as educational material, sport material and play ground, library and toilets on Learning and outcomes of students in Nepal. The study further showed that the physical facilities and student's outcome in community schools of Central Nepal had poor relationship (Nepal and Maharjan, 2015).

When the teachers were asked how the inadequacy of physical facilities affects the teaching-learning process, they generally noted that for effective teaching learning to take place, the school environment should be conducive by providing all the physical facilities required. They reported that lack of these facilities leads to congestion and hence non conducive environment for teaching and learning process.

The adequacy of physical facilities in school was reported to affect teaching and learning process in that it makes pupils enjoy learning and it eliminates the aspect of congestion. It was noted in a similar study that basic technology which entails physical facilities is key in enhancing teaching and learning in Primary schools and that it would be counterproductive for poor countries to try to provide primary education without the basic technology which richer countries have long taken for granted (Urwick-Sanusi and Junaidu, 1991).

The physical facilities and student's outcome in community schools of Central Nepal are poor. Many community schools face related problems in terms of lack of availability and utilization of physical facilities, even the basic requirements such as educational material, sport material and play ground, IT Laboratory, library and toilets. These have led to high rates of failing students from public schools attributed to poor quality of teaching-learning in these schools (Nepal and Maharjan, 2015).

CONCLUSION

In conclusion, this study found that among the school environmental factors, physical facilities particularly adequacy of classrooms, was the only factor that significantly affected the teaching and learning process.

RECOMMENDATIONS

This study recommends that National and County governments should ensure that classrooms are adequate in Public primary schools because this significantly affects the process of teaching and learning.

There is also need to investigate the influence of school environmental factors on the teaching-learning process in public primary schools in other Counties in the Country so as to determine the major significant factors nationally to be used to inform National policy in Education.

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