

Influence of Physical Facilities on the Teaching-Learning Process in Public Primary Schools in Bungoma County, Kenya

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Abstract

This paper presents the findings of a study undertaken to investigate the influence of sufficiency of physical facilities on the teaching-learning process in public primary schools in Bungoma South Sub-County, Bungoma County, Kenya. The findings of this study will be significant to the Ministry of Education in terms of providing additional information for policy formulation in public primary schools. 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. A combination of stratified sampling, simple random sampling and purposive sampling were used. In a case where there was more than one stream in a class, simple random sampling was used to select one class teacher from each stream. A sample size of 30 % of the target population was used. Primary data was used and collected using questionnaires and focus group discussions. 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 ($Z=1.776, 0.046$). The study concluded that among the physical facilities, adequacy of classrooms was the only factor that significantly affected teaching and learning whereby adequate classrooms positively affected, while inadequate classrooms negatively affected teaching and learning. The study therefore recommends that national and county governments should ensure that classrooms are adequate in public primary schools.

Key words: *Physical facilities, teaching and learning process*

Introduction

Physical facilities refer to the movable and immovable objects in schools that bring comfort to the learner. They include classrooms, libraries, offices, toilets and desks. In developed countries like the United States of America, the government has put up measures to ensure all public primary schools have all the required physical facilities, instructional materials among other variables that may lead to effective teaching-learning process (Psachropoulos & Woodhall, 1995).

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

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 them (Frazier, 2002; Lyons, 2001).

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.

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 by facilitating good social, political and economic emancipation, effective teaching-learning process and academic performance of pupils (Mege, 2014).

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).

In Bungoma County, Kenya it was noted that there was low enrolment in Bungoma County especially in Mount Elgon and Bungoma North Sub-Counties. This was attributed to insufficient teaching and learning resources and physical facilities (Rasto, 2015).

Most rural schools lack sufficient physical facilities, and 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.

No study has so far been done in Bungoma South Sub-County, Bungoma County to determine the influence of sufficiency of physical facilities on teaching and learning process. Therefore, this study sought to determine the relationship between

sufficiency of physical facilities and the teaching-learning process in Bungoma South Sub-County, Bungoma County, with a hope of making recommendations for improvement.

Objective of the Study

The objective of the study was to examine the effect of physical facilities 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 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

In Ghana, educational infrastructural development is unequally shared by the Ghana Education Trust Fund Secretariat. Whereas some schools are well resourced in terms of infrastructure, personnel and instructional materials, they also experience insufficient resources, inter alia, 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 (Dadze, 2010). 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. A study by Nepal and Maharjan (2015) showed that the community schools of central Nepal had poor school physical facilities and student's achievement. Therefore, teachers' effectiveness and students' academic performance can be greatly influenced by poor school facilities.

In his study 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

Research Design

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.. This type of research method is not simply amassing and tabulating facts but includes proper analyses, interpretation, Comparisons, identification of trends and relationships. 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. Bungoma south sub-county was stratified into three zones because the sub-county is not homogeneous, and 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 were selected through simple random sampling of pupils in class six and class seven 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.

In this study a sample of 30 % of the target population was used in line with Mugenda & Mugenda (2003) recommendation that for descriptive studies, ten percent or above of the accessible population is enough for the entire study. The primary data was collected using questionnaires and focus group discussion (FGD)

guides (Kothari & Garg, 2014). The questionnaire presented both open and close-ended questions that required a single response. Focus group discussions were conducted between the researcher and the pupils who yielded additional information to supplement information from the questionnaires. Descriptive statistics was used to analyze quantitative data and findings presented in frequency tables and charts.

Findings

The adequacy of physical facilities and the teaching-learning process as responded by the class teachers is shown in Table 1.

Table 1

Adequacy of Physical Facilities and the Teaching-Learning Process by Class Teachers

Physical facilities	Very Adequate	Adequate	Fairly Adequate	Inadequate	Not Available
Staffroom	17(29.8%)	22(38.6%)	9(15.6%)	6(10.5%)	3(5.3%)
Classroom	14(24.6%)	10(17.5%)	25(43.9%)	8(14%)	0(0.0%)
Toilets	4(7.0%)	7(12.3%)	31(54.4%)	15(26.3%)	0(0.0%)
Library	1(1.8%)	5(8.9%)	12(21.4%)	15(26.8%)	23(41.1%)
Playing Ground	7(12.3%)	11(19.3%)	13(22.8%)	23(40.4%)	3(5.3%)
Desks and Tables	5(8.8%)	13(22.8%)	28(49.1%)	11(19.3%)	0(0.0%)

Twenty two teachers 22 (38.6%) pointed out that the schools have adequate staffrooms while 25 (43.9%) that they have fairly adequate classrooms. Desks and tables were fairly adequate at 28 (49.1%). Twenty (40.4%) of the teachers also highlighted that playing grounds were inadequate which are very important in co-curricular activities. Majority 23 (41%) reported unavailability of library facilities in their schools. Highest proportion of teachers 31 (54.4%) pointed out that the schools had fairly adequate toilets.

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.

Adequacy of Physical Facilities and the Teaching-Learning Process

Table 2

Adequacy of Physical Facilities and the Teaching-Learning Process by Head Teachers/ Deputy Head Teachers

Physical Facilities	Very Adequate	Adequate	Fairly Adequate	Inadequate	Not Available
Staffroom	8(29.6%)	11(40.7%)	3(11.1%)	2(7.4%)	3(11.1%)
Classroom	4(14.8%)	11(40.7%)	6(22.2%)	6(22.2%)	0(0.0%)
Toilets	2(7.4%)	6(22.2%)	7(25.9%)	12(44.4%)	0(0.0%)
Playing ground	2(7.4%)	4(14.8%)	8(29.6%)	11(40.7%)	2(7.4%)
Library	1(3.7%)	2(7.4%)	5(18.5%)	8(29.6%)	11(40.7%)
Desks	2(7.4%)	5(18.5%)	16(59.3%)	4(14.8%)	0(0.0%)
Head teachers offices	8(29.6%)	11(40.7%)	1(3.7%)	6(22.2%)	1(3.7%)
Teachers tables	2(7.4%)	5(18.5%)	12(44.4%)	6(22.2%)	2(7.4%)

Higher proportion of the head teachers 11 (40.7%) reported that staff room, classrooms and head teachers offices were adequate in their schools. Similarly, higher proportion reported inadequacy of toilets and playgrounds, 12 (44.4%) and 11 (40.7%) respectively. Library facilities were reported to be inadequate by 8 (29.6%) of the head teachers. Desks and teachers tables were reported to be fairly adequate by 16 (59.3%) and 12 (44.4%) of the teachers respectively as indicated in table 2.

The Effect of Adequacy of Physical Facilities on the Teaching-Learning Process

Table 3

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 3). Those who reported having adequate classrooms performed better than those who reported inadequacy ($Z=1.776$, 0.046) as shown in Table 3. 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.

The physical facilities and students' 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 out that among the physical facilities, adequacy of classrooms significantly affected the teaching-learning process.

Recommendations

This study recommends that stakeholders should ensure that classrooms are adequate in public primary schools because this significantly affects the process of teaching and learning.

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