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Influence of Planning of Physical Facilities on the Provision of Quality Learning Environment in Secondary Schools in Narok North Sub-County, Kenya

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Abstract:

The purpose of the study was to determine the influence of planning of physical facilities on the quality of learning environment provided by secondary schools in Narok North Sub-County. The study used the descriptive survey research design. The target population consisted of one Sub-County Director of Education (SCDE), 23 principals, 345 teachers, and 1150 students from 23 public and private secondary schools in Narok North Sub-County. A random sample of, 100 teachers and 120, form three students was selected for the study. The study sample also included one SCDE and 23 principals who were purposively selected, to give a total of 267 respondents. The instruments for data collection were questionnaires for teachers and Form Three students. An interview schedule was administered to the administrators. The study concentrated on the basic facilities that were used by students and teachers on daily basis that could have a direct impact on the teaching and learning process. The physical facilities included the sanitation facilities classrooms and classroom furniture which included desks and chairs. The study found that there was a statistically significant relation between planning, adequacy and quality of physical facilities of schools. A majority of the school administrators were aware of the existence of government approved building guidelines. However, they did not adhere to them when putting up school buildings. Most of the administrators also observed that there was no enforcement mechanisms in construction of school buildings and no inspection of facilities were carried out by the government. Teachers and students observed that the classrooms had good quality lighting, ventilations to provide a high indoor air quality, while other aspects of the classroom did not meet the standard for inspirational setting for learning. This was because classrooms were inadequate resulting into overcrowding and, without enough furniture. On the issues of sanitation facilities the respondents agreed that the facilities were the most neglected. Based on these findings it is then recommended that government to use qualified building constructors, conduct regular inspection of school facilities to ensure compliance with construction guidelines and therefore ensure provision of adequate quality learning environment. These findings are likely to benefit the ministry of education and the school administrators, in understanding the importance of planning of school physical facilities, in order to provide quality learning environment, hence improve the quality of education. These findings are likely to benefit the ministry of education and the school administrators, in understanding the importance of planning of school physical facilities, in order to provide quality learning environment, hence improve the quality of education.

Keywords: Planning, physical facilities, quality learning, learning environment

1. Introduction

1.1. Background of the Study

The school physical facilities require proper planning to provide inspirational setting for learning. Berry (2002), observed that effective planning of a school's physical facilities is achieved through good design. A well designed school building is the one which is structurally sound so that it can provide a secure learning environment and able to enhance learning, boost students' and teachers' morale and increase motivation (United Nation Child Education Fund [UNICEF], 2009). The school administrator needs to adequately address the issues of planning of educational physical facilities in order to provide quality learning environment (Kenneth & Jeffery, 2006).

Educational buildings need to have learning spaces that support the learning process; are secure, comfortable and provide inspirational setting for teaching and learning to take place (Abend, 2006). Research has shown that clean air, good lighting and small, quiet, comfortable and safe learning environments are important for academic achievement (Cash, 1993). A study by Peterson (2011) indicated that school buildings with sufficient environmental elements such as indoor air quality, ventilation, thermal comfort, day lighting, and classroom acoustics are well-designed and properly maintained, school climate improves and students respond by producing higher academic outcomes. Student success is related to overall school building condition. Furthermore, when a school's facility deteriorates, student absenteeism increases, reducing a student's likelihood of receiving a quality education.

In developing countries, low levels of learning among children may partly be attributed to poor or inadequate facilities in schools. A research in India by Govinda and Varghese (1993), indicated that those schools without buildings and which hold classes under trees or in borrowed spaces from other schools or other users, tend to have poor attendance. At the same time, those who attend are inclined to have a poor academic performance. Research shows that availability of the physical facilities has a significant positive influence on the performance of the students. A study undertaken in Nigeria by Shami and Hussain (2005) indicated that the availability of physical facilities in a school had a significant impact on students' performance.

In Kenya, there is a major backlog of infrastructural provision such as permanent and quality classrooms, particularly in marginalized areas such as North Eastern, Narok, Turkana and Samburu. Therefore, there has been a marked increase in unplanned educational buildings that are poorly built and lacking basic facilities. At the same time, existing infrastructure is generally in poor condition due to lack of planning, poor construction standards and inadequate maintenance (UNESCO, 2006).

Schools in Kenya vary significantly in design, size and building materials. The school size, designs and quality have been left to schools and communities with little or no government supervision. This however has resulted into make-shift kind of structures in the name of schools which are likely to hinder the learning process because of their poor quality. One may wonder if there are government construction guidelines that are supposed to be followed during construction of such schools. According to the School Safety Manual (Ministry of Education, 2008), school physical infrastructure should be safe and sound to foster quality learning environment. It recommends that, there should be adequate provision of clean and well maintained facilities such as classrooms, toilets and other sanitation facilities (Ministry of Education, 2008). However, another report on Child Friendly School from the Ministry of Education indicates that primary and secondary schools still continue to experience many challenges relating to overcrowded classrooms and inadequacy of sanitation facilities (Ministry of Education, 2010).

A report from the Narok District Education Office (2008) shows that secondary schools in Narok have an imbalanced provision of educational physical facilities. It is common to have schools with class sizes up to between 80-100 students. In some schools, there are inadequate classrooms, staff offices, laboratories, toilets, and libraries. Some classes lack well fitted doors and window-panes, while others have leaking roofs, earthen and dusty floors. Many schools suffer from inadequate maintenance and have dusty compounds that are likely to be hazardous to the health of learners and teachers. This situation does not provide quality learning environment and therefore may have direct or indirect impact on the teaching and learning process and eventually, negatively effecting students' academic performance.

Records from Narok District Statistics Office (2010), indicate that secondary schools in the district perform poorly at national examinations. Several reasons that have contributed to poor performance were given. These include inadequate provision of quality educational facilities, and poor planning of educational physical facilities. Therefore, the school managers and parents need to be informed about the conditions of their school facilities in order to appreciate the difference facilities could make in the quality of education acquired by their children.

1.2. Statement of the Problem

Educational physical facilities need proper planning if they are to provide inspiration learning environments. According to Narok North District Statistics Office (2010), secondary schools in Narok Sub County perform poorly at national examinations.

These schools have an imbalanced provision of educational physical facilities. It was observed that some secondary schools had classrooms of different sizes and constructed using different materials varying in quality from mud, iron sheets, timber and stones. In some schools, there were inadequate classrooms, staff offices, laboratories, libraries and sanitation facilities. Others had none, and where they existed, such facilities were poorly planned and maintained. These conditions existed in many schools despite the presence of the Education Health and Safety Standards Act that regulates the provision and maintenance of school physical facilities to provide quality learning environments. These differences in schools' physical facilities could influence the quality of learning environments, student learning behaviour and in turn impact on academic achievement in the schools. It was therefore necessary to conduct this study to determine the influence of planning of physical facilities on the quality of learning environment, and whether this affected the quality of education provided by secondary school in the Sub County.

1.3. Theoretical Framework

The theoretical framework to guide this study was based on Sustainable Model Approach to Planning and Designing of Educational Facilities (Brubaker, 1998). The Sustainable Model is the means by which educators and design professionals transform the vision they have of an educational facility into an architectural product. This model focuses on how learning spaces change overtime. Sustainable planning focuses on three premises; firstly, that an educational facility will remain the anchor for generations of learners, secondly that educational space within a facility need to be efficient and flexible, and finally that building materials and architectural practices must be environmentally friendly to sustain learning in a school.

An educational facility which fails to meet the needs of its stakeholders is the result of educators and design professionals being unable to manage the dynamics of the planning environment. It may be as a result of not obtaining the support, services, and/or materials necessary to design and construct an educational facility that is a physical representation of a clearly articulated educational vision (Frederick, 2006). In the development of this study, it is evident that it is necessary to deal with complexity of the environment in which secondary schools are planned and the concerns regarding the learning environment of schools as learning institutions. Therefore, a construct which endeavored to explain in a systematic way, complex pattern, interactions, and relationships between the physical, social, pedagogical, cultural, and economic components of educational facilities planning is needed. In this study the model will therefore represents a theoretical construct from which design professionals and educators can better organize, understand, analyze, research and communicate complex cause-effect relationships that occur when educational facilities are properly designed and constructed. Educators and design professionals should have the ability to design and construct educational facilities that meets the needs of children and the communities they serve (Frederick, 2006). It will also help to understand the relationships between educational facility planning and provision of quality learning environment.

2. Methodology

The study utilized descriptive survey research design that used structured questionnaires and interview schedules to capture information on the perception of influence of planning of school physical facilities and provision of quality learning environment in secondary schools in Narok North Sub-County. According to Mugenda and Mugenda (1999), descriptive research designs report things as they are and therefore helped the researcher to describe and answer questions concerning the current status of the physical facilities and the quality of learning environment in secondary schools in Narok North Sub-County.

This study was carried out in 21 public and two private secondary schools in Narok North Sub County. The district has three divisions Olkurto, Central and Mao. The District was chosen since according to statistics from the Narok North District Statistics Office (2010), secondary schools in Narok Sub County perform poorly at national examinations. Secondary schools in Narok North sub-county have an imbalanced provision of educational physical facilities. It was observed that some secondary schools had structures of different sizes and constructed using different materials varying in quality from mud, iron sheets, timber and stones. In some schools, there were inadequate classrooms, staff offices, laboratories, libraries and sanitation facilities. Others had none, and where they exist, such facilities were poorly planned. Thus poor performance in the examination may have been caused by poor planning of educational facilities, which resulted into inappropriate learning environments. Purposive sampling was used to select the school principals and DEO. Purposive sampling was used because it allowed the researcher to use cases that had the required information with respect to the objectives of the study. Thus all the principals and DEO were selected to participate in the study.

3. Results and Discussion

The study was conducted from a sample of secondary schools in Narok North district. The results indicated that 83.6% of the respondents were from public schools and the remaining 16.4% were from private secondary schools. The results also indicated that majority (69.1%) of the respondents were from mixed schools and therefore required different facilities for both boys and girls.

3.1. Use of Government Provided Guidelines in Buildings Construction

Interview schedules were used to collect information from the administrators to determine whether secondary schools in Narok North Sub County used government provided guidelines on construction of educational buildings. The results were as indicated on Table 1.

Responses	f	%
Am aware of government guidelines on construction of school buildings	8	61.5
My school was constructed without building plans.	7	53.8
My school has building plans approved by local authority	6	46.2
Administrators do not adhere to guidelines provided by the government	8	61.5
School buildings not inspected and approved before occupation	7	53.8
No certificates of occupation issued after completion of construction.	9	69.2

Table 1: Use of Government Provided Guidelines on School Buildings Construction

The results indicated that, although a majority (61.5%) of the administrators were aware of government provided guidelines on the construction of school physical facilities, many of these were constructed without reference to these guidelines. The study found that the government enforcement mechanisms were not in existence. There was no government follow up or issue of certificates of occupation once the facilities were completed.

Majority of (69.2%) the principals reported that schools were not issued with certificates of completion and occupation despite the inspections. This is an indication that majority of the school buildings were constructed and occupied without proper inspection, supervision and approval by Ministry of Public Works and other relevant authorities. As a result, construction of school physical facilities has been left to the local communities, with little or inadequate government supervision, leading to make-shift kind of structures that are dangerous and hinder the learning process because of their poor quality. Inspection during construction is the only way to independently verify conformity to minimum standards, prior to issuing an occupancy certificate (BEST Partner, 2001). Lack of qualified personnel in construction of school buildings may be the reason for inadequate inspection, monitoring and certification of

these educational facilities. For this reason, inadequate inspection of educational buildings was an indication that the government has not put into place proper mechanism for planning, designing and construction of school buildings. This therefore, meant that every school administrator did things in his or her own way, hence, affecting the quality of school buildings in the county.

3.2. Quality of School Physical Facilities

The study investigated the quality of classrooms and sanitation facilities. Teachers and students were required to indicate their level of agreement or disagreement with various aspects of the quality of classrooms in their schools. They responded to this item using a 5 point Likert scale where 1= Strongly Disagree, 2= Disagree, 3= Not Sure, 4 = Agree and 5= Strongly Agree.

3.2.1. Quality of the Classrooms

Table 2 and 3 indicates the teachers' and students' perceptions on the quality of classrooms respectively.

Statement	SD %	D %	N %	A %	SA %
Adequate lighting all the time	11.2	31.7	1.0	41.9	14.2
Classroom well ventilated to provide fresh air	12.6	14.7	2.2	41.5	29.0
The classroom temperature is comfortable throughout the day	22.0	20.1	3.6	34.9	19.4
Floors of the classrooms are not dusty or potholed	34.8	30.9	2.3	16.6	15.4
Classroom has a sound proof ceiling which is comfortable to teach in during rainy season	34.8	35.9	0.0	16.1	19.6
No noise from surrounding environment disrupting learning	17.4	21.2	2.0	38.3	21.1
Generally, the classrooms provide quality learning environment	23.2	22.5	4.8	24.3	25.2
Mean of means	22.7	24.7	2.2	27.7	21.3

Table 2: Teachers perception on quality of classrooms.
N=65

Statement	SD %	D %	N %	A %	SA %
Adequate lighting all the time	10.8	28.7	3.0	43.1	13.2
Classroom well ventilated to provide fresh air	9.6	10.2	4.2	46.7	28.1
Classroom temperature is comfortable throughout the day	12.0	28.1	9.6	38.9	10.2
Floors of the classrooms are not dusty or potholed	33.3	36.7	0.4	17.4	12.4
Classroom has a sound proof ceiling which is comfortable to teach in during rainy season	30.5	31.7	3.0	18.0	15.0
No noise from surrounding environment disrupting learning	14.4	22.2	3.0	35.3	21.6
Generally, the classrooms provide quality learning environment	7.8	21.6	10.8	34.1	22.8
Mean of means	16.8	23.4	4.98	32.9	18.9

Table 3: Students' perception on quality of classrooms.
N=102

On the quality of the classrooms, the study found that teachers perceived that the classrooms had good quality lighting, and ventilations to provide a high indoor air quality, while other aspects of the classroom did not meet the standard for inspirational setting for learning.

For example, most schools had corrugated iron sheets without ceilings. This caused a lot of noise during the rainy seasons, as well as affecting thermal quality by making classrooms hot in the afternoons during the dry seasons. A further findings indicated that floors were potholed and dusty, an indication of poor maintenance of classroom floors.

The student respondents on this item concurred with the most of the perceptions of their teachers, however they disagreed with the perceptions of their teachers that classrooms did not provide inspirational setting for learning.

A Quality learning environment provided by a physical facility is the one that adequately supports the desired educational programme or enables the development of learning environment that supports teaching and learning process (Schneider, 2004). Aspects such as level of comfort, indoor air quality, cleanliness and maintenance are important measures of a quality facility. According to Culp (2005), the state and condition of physical facilities are responsible for determining the status of learners' health and learning outcomes. Classrooms and other facilities therefore need to be repaired, maintained and serviced from time to time in order to enhance quality learning environment.

3.3. Perception on Quality of Sanitation Facilities

On the quality of the sanitation facilities, the study found that all the respondents agreed that these facilities were the most neglected, because they were not properly maintained, had inadequate lighting and ventilations. The findings are indicated in table 4 and 5.

Statement	SD %	D %	N %	A %	SA %
The toilets and bathrooms are safe for use by all students	42.8	24.3	1.2	7.8	23.9
The sanitation facilities have adequate lighting	33.8	30.9	4.1	22.3	8.9
The sanitation facilities are well ventilated	38.5	27.4	3.3	26.7	4.1
Sanitation facilities provide high level of hygiene	35.7	37.2	2.1	22.8	2.2
Mean of means	37.7	30.5	2.7	19.9	9.8

Table 4: Teachers Perception on Quality of Sanitation Facilities
N=65

Statement	SD %	D %	N %	A %	SA %
The toilets and bathrooms are safe for use by all students	38.2	22.4	1.6	26.5	11.3
The sanitation facilities have adequate lighting	30.4	24.4	3.8	26.9	14.5
The sanitation facilities are well ventilated	29.2	25.0	3.9	23.3	17.9
Sanitation facilities provide high level of hygiene	33.9	34.8	1.2	22.1	8.0
Mean of means	33.0	26.7	2.6	24.7	13.0

Table 5: Students Perception on Quality of Sanitation Facilities
N=102

The findings from the two categories of the respondents indicated that sanitation facilities were not safe for use by all students in most of the schools in Narok North district. The sanitation facilities could not satisfy the needs of all the learners hence impacted negatively on students as indicated in this study. The sanitation facilities provided in the school must be child friendly and should meet the needs of all learners, have welcoming, healthy and clean environment. Schools with such facilities promote quality learning environment that results into effective teaching and learning (Cash, 1993). School sanitation facilities especially toilets play a crucial role in maintaining hygiene and self respect. The findings from this study that school physical facilities especially classrooms, toilets and bathrooms were of poor quality confirm the report by UNESCO (2003) on secondary education reform in Africa. The report noted that in Sub Saharan Africa, school health services, classroom maintenance and furniture have deteriorated so drastically that they cannot meet the educational challenges of the 21st century. Also the report by UNESCO (2005) on Free Primary Education in Kenya also concurs with this observation. The report indicated that many schools including secondary schools in the country had poor quality facilities. The report noted that many schools were unhygienic, poorly maintained and unappealing to learners.

3.4. Adequacy of Physical Facilities

Adequate provision of school facilities in relation to the students' population is important because the quality of education that children receive is affected by the availability or non-availability of physical facilities (Likoko, S. et al. (2013). The study investigated the adequacy of classrooms and sanitation facilities. Table 6 and Table 7 indicate the teachers and students' perception on the adequacy of classrooms respectively.

Statement N=65	SD %	D %	N %	A %	SA %
The school has adequate number of classrooms	36.6	24.1	1.3	25.7	12.3
Classrooms have adequate learning space for movement and group discussions.	29.6	35.7	1.0	22.2	11.5
Classrooms are not overcrowded	27.4	38.9	0.0	19.8	13.9
Classroom has enough desks, chairs and tables for all students and teachers	28.2	29.4	2.0	19.5	20.9
Mean of means	30.5	32.0	1.1	21.8	14.7

Table 6: Teachers Perception on Adequacy of Classrooms

Statement N=102	SD %	D %	N %	A %	SA %
The school has adequate number of classrooms	19.6	22.5	1.3	36.8	19.8
Classrooms have adequate learning space for movement and group discussions.	21.9	28.2	3.3	27.6	19.0
Classrooms are not overcrowded	19.6	36.1	2.0	30.0	12.3
Classroom has enough desks, chairs and tables for all students and teachers	14.4	27.8	2.2	34.3	21.3
Mean of means	18.9	28.7	8.8	32.2	25.6

Table 7: Students Perception on Adequacy of Classrooms

The report from the two categories of the respondents indicated that their schools did not have enough classrooms. Lack of adequate learning space hindered interactions among learners on one hand and teachers and learners on the other hand during teaching and

learning activities. This could be attributed to small and overcrowded classrooms as indicated by 66.3% teachers and 55.7% students. This may be caused by increased number of students enrolled in a school with inadequate teachers, hence forcing teachers to put more learners in a classroom. Fisher (2004) found that there was a strong relationship among school size, number of students in a class and students' achievement. Students in smaller classes outperformed those in larger classes as measured by Standardized test scores.

Finally, 40.4% of teachers and 57.8% of the students agreed that classrooms in their schools had enough desks, chairs and tables for all students and teachers. The results agree with the findings of the Southern Africa Consortium for Monitoring Education Quality (SACMEQ) (2001), survey which observed that school sitting and writing places were adequate, although much of the school furniture were not in good condition hence needed repair. However, 57.6% of teachers and only 42.2% of students disagreed with this observation. This may be interpreted to mean that majority of schools did not have enough desks and chairs in the classroom for teachers. A study on the adequacy of educational facilities and their effect on quality of teacher preparation in emerging private primary teacher training colleges in Bungoma County by Likoko, Mutsotso and Nasongo (2013), found that most of emerging private primary teacher training colleges had inadequate, obsolete and dilapidated facilities unsuitable for preparing competent teachers. They concluded that poor state of school buildings was a clear manifestation of ineffectiveness of the systems of monitoring and regulation of teacher training institutions by QASO.

The finding of this study agrees with a report from the Narok District Education Office (2008), that some schools in Narok have class sizes going up to between 80-100 students. Similarly, a report by UNESCO (2006) shows that there are over 50 students per class in secondary schools in Kenya. Overcrowding does not only result into students' discomfort but also compromises the indoor air quality, discipline, teacher-student's interactions and overall atmosphere in such classes. Overcrowded and inadequate facilities are associated with poor planning. This could be caused by inadequate funding from the parents and the government.

3.5. Perception on Adequacy of Sanitation Facilities

Generally, the sanitation facilities were found to be inadequate, with low level of hygiene. Table 8 and 9 indicates the respondents' perception on the adequacy of sanitation facilities.

Statement	SD %	D %	N %	A %	SA %
Boarding school has adequate bathrooms for all students	34.2	39.7	1.0	14.1	11.0
Schools has adequate toilets for all students and teachers	26.7	38.8	1.1	21.7	11.7
Sufficient water available for hygienic sanitation facilities	44.3	35.8	0.0	10.2	9.7
Mean of means	35.1	38.1	0.7	15.3	10.8

Table 8: Teachers Perception on Adequacy of Sanitation Facilities
N=65

Statement	SD %	D %	N %	A %	SA %
Boarding school has adequate bathrooms for all students	32.6	34.9	2.2	19.8	10.5
Adequacy of toilets for all students and teachers	26.8	38.9	1.3	23.2	9.8
Availability of water to maintain sanitation facilities	36.2	37.7	1.6	11.1	13.4
Mean of means	31.9	37.2	1.7	18.0	11.2

Table 9: Students Perception on Adequacy of Sanitation Facilities
N=102

On the adequacy of sanitation facilities, the study found that schools did not have adequate toilets, bathrooms and water supply while others did not have access to water at all. Thus, lack of water contributed to low level of hygiene in these facilities. The findings from Table 10 and 11 reveals that 73.9% of the teachers and 67.5% of the students respectively reported that their schools had no adequate bathrooms for all students. On the same note, 65.5% of the teachers and 65.7% agreed that their schools had no adequate toilets for all students and teachers. These findings concur with the findings by SACMEQ, 2001 which observed that schools in Kenya had inadequate and extremely overcrowded sanitation facilities shared by too many learners. The findings of this study are also in agreement with that of the National Primary School Baseline Study of 1998 which revealed that many schools in Kenya did not have enough toilets for learners. The report noted that inadequate or lack of facilities was embarrassing especially for girls after puberty (Njuguna, Chege, Thinguri & Makatiani, 2014).

The result also indicates that there was no enough water to maintain high level of hygiene in sanitation facilities as presented by 80.1% and 73.9% of the teachers and the students respectively. Only in a few schools adequate water supply was available. This means that majority of the schools did not have sufficient water supply and this may be the reason why classrooms were dusty and sanitation facilities were at low level of hygiene.

3.6. Influence of Planning of School Physical Facilities

Planning and design of education facilities for schools, polytechnic, colleges and universities, has vital impact on education outcomes (Ogundele & Moronfoye, 2013). The responsibility of planning of school physical facilities requires expert input from a wide range of

stakeholders, to ensure that every child has favourable academic environment for quality education. Effective educational facilities should address the total quality learning environment including general sanitation, air quality, noise control, good lighting, appealing colour and general comfort provided by temperature and climate (National Research Council of the National Academies, 2006).

Many schools in developing countries are poorly planned, designed and constructed with facilities that are badly laid out, unhygienic, uncomfortable, inaccessible, dangerous and generally not conducive to effective teaching and learning. It is believed that a well planned school will gear up expected outcomes of education that will facilitate good social political and economic emancipation, effective teaching-learning process and academic performance of pupils.

Statement	S %	D %	U %	A %	SA %
Teachers are involved in the planning of school buildings	13.2	19.8	25.1	24.6	12.6
The school physical facilities affect my health negatively	22.2	34.7	6.0	22.8	7.8
Proper maintenance and repair of school buildings is a priority and is regular in my school.	9.0	18.0	10.2	43.1	14.4
Walls, roofs, floors, windows, doors have been repaired in the last one year	8.4	7.8	3.0	49.1	26.9
Am happy with general structures of school buildings in my school	13.2	21.6	8.4	33.5	19.2
Classrooms in my school provide a favorable/inspiration setting for learning	6.0	16.2	8.4	51.5	13.2
Quality of learning environment positively influences student academic performance	9.0	22.2	7.8	34.7	22.2
Mean of means	11.6	20.0	9.9	37.0	16.6

Table 10: Teachers Perception on Planning of School Facilities
N=67

The results on table 10 indicates that majority of teacher respondents agreed that they were not involved in planning of school buildings. Most of them indicated that they were happy with general structure and condition of school buildings and felt that classrooms provided favorable setting for learning. Although some of them felt that maintenance and repair of the school physical facilities was a priority, majority (65.7%) of the respondents indicated that the floors were not well maintained and had potholes. Teachers in schools with a dilapidated building with leaking roofs, worn out floors and shattered windows develop negative attitude towards the school and are likely to become desperate and frustrated. This is likely to affect their work output (Mohammad, 2012). School building physical conditions therefore has a direct positive or negative effect on teachers' morale, sense of personal safety, feelings of effectiveness in the classrooms, and on the other aspects of their morale. Schools where teachers are involved in the process of planning of school physical facilities, have a sense of belonging, commitment and belief that the administration cares about them and what goes in the buildings (BEST, 2001).

According to Schools Safety and Standards Manual (SSMSK, 2008) school facilities need to be repaired, maintained and serviced from time to time in order to enhance their safety. Schools, whose buildings are not well maintained, look dilapidated and unhygienic, giving a negative impression about the management and mission of the school. Maintenance enhances performance and durability as well as reduces of wastage. According to Asiyai (2012), maintenance of educational facilities is one of the most neglected tasks in many institutions with far reaching effects. The findings were in agreement with studies by Earthman (2004) and Edwards (1992), on student academic achievement and building condition that concluded that the quality of the physical environment significantly affects student academic achievement. In another study of school building design and student learning, Cash (1993) found that comfort factors appeared to have more effect on student achievement than did structural factors. High achievement was associated with schools that were air conditioned, enjoyed less noisy external environments, had less graffiti, and where classroom furniture and student lockers were in good repair.

In Kenya studies by Berner (1993), Munda and Tanui (2010) and Kaberia (2010), indicated a close relationship between the school physical environment and the academic performance of students.

3.7. Perception of Administrators on Influence of Planning

Table 11 indicates the administrators' perception on planning and quality of educational physical facilities.

Responses	%
No enforcement mechanism in school buildings construction.	53.8
Parent Teacher Association not guided in planning of school buildings	61.5
No inspection of school buildings by the government	53.8
Classrooms provide favourable settings for teaching and learning	69.2
The quality of learning environment is a factor of all aspects of proper planning.	53.8

Table 11: The Administrators' Perception on Planning and Quality of school Physical Facilities

The majority of the administrators observed that there were no enforcement mechanisms in construction of school buildings and no regular inspection of school physical facilities. However, 69.2% of the administrators were of the opinion that classrooms in their schools provided a favorable setting for teaching and learning.

Lack of proper enforcement of government provided guidelines may lead to poorly planned buildings, being erected without proper

approval from the relevant bodies. The findings conform with those by Nyakundi (2012) which concluded that few secondary schools in Kenya had a school development plans and very few schools had approved plans.

Majority of 61.5% of the respondents indicated that PTA was not properly guided in planning and construction of school buildings. This indicated that the roles of planning of school facilities in Narok were left to parents with little or no knowledge on existing government policies and without government supervision. This could be the reasons why most of the schools are poorly planned. Lack of government involvement in construction of school buildings is an indication of ignorance of existing policies, lack of commitment and advisory services from educational officers which prevent execution and implementation of policies to enhance building quality school physical facilities. Further, 53.8% of the respondents revealed that the Ministry of education did not conduct regular inspections of school physical facilities to recommend for improvement.

According to School Safety Manual Ministry of Education (2008), the educational officials especially the DQASO have been given authority to monitor and inspect safety situations and well being of physical facilities in schools. The policies require that school physical facilities to be inspected at least once a year. A study by Njuguna, Chege, Thinguri and Makatiani, (2014), revealed that though occasional QASO school visits in Kajiado County were made, inadequacy of educational facilities, lack of maintenance and neglect of school facilities, were rampant.

The findings by Fisher (2004) observed that many schools in developing countries were poorly planned, designed and constructed with facilities that were badly laid out, unhygienic, uncomfortable, inaccessible, dangerous and generally not conducive to effective teaching and learning. The report further claimed that schools with poor quality physical facilities were often brought about not by a lack of resources but inappropriate standards, a lack of proper planning and poor understanding of the links between infrastructure provision and education delivery.

The findings of this study indicated that schools in Narok North had reasonably enough ventilations, but the classes were overcrowded, low level of hygiene, lack of ceilings in classrooms and inadequate sanitation facilities. This is an indication of lack of proper policy enforcement mechanism. Education officers are therefore supposed to make a follow up to ensure that schools have adhered to the recommendations by school manual by ministry of education.

➤ **Correlations between planning for physical facilities, adequacy of physical facilities and quality of learning environment**

The Pearson's Correlation Coefficient (r) was used to find out whether there was a significant relationship among the three variables; planning for physical facilities, adequacy of physical facilities and quality of learning environment was established by correlating the indices (overall mean scores) of the three constructs. The results of the bivariate test are in Table 12

Scale		Quality of learning environment	Adequacy of physical facilities
Adequacy of physical facilities	Pearson Correlation coefficient r	.763*	
	p-value	.000	
	N	65	
Planning for physical facilities	Pearson Correlation coefficient r	-.023	.179
	p-value	.894	.302
	N	65	65

Table 12: Correlations between planning for physical facilities, adequacy of physical facilities and quality of learning environment Significant at 0.05

The results of the Pearson's correlations test in Table 12 reveal that the relationship between adequacy of physical facilities and quality of learning environment was positive and statistically significant at the 0.05 level, $r(63) = .763, p < 0.05$. However, the results reveal that the relationship between adequacy of physical facilities and planning for physical facilities was positive and not statistically significant at the 0.05 level, $r(63) = .179, p > 0.05$.

The results further show that relationship between planning for physical facilities and quality of learning environment was negative and not significant at the 0.05 level, $r(63) = -.023, p > 0.05$. The results of the test reveal that adequacy of physical facilities influences quality of learning environment, however planning for physical facilities do not.

4. Conclusions and Recommendations

Majority of the schools were built without following any guideline, government enforcement mechanism was not in existence and there was no government follow up and issue of certificate of occupation. The structures that were constructed without use of government guidelines did not provide quality learning environment in the opinion of the teachers and the students as a result of inadequacy of classrooms and sanitation facilities. On the quality of school physical facilities there was differing opinions where teachers indicated that the structures provided did not provide proper quality learning environment, while administrators and students indicated that the facilities were able to provide inspirational setting for learning. On the adequacy, the facilities provided were grossly inadequate as there was overcrowding in classes with 91% of the respondents indicating that the classes had more than 40 students which is the recommended class size by the ministry of education. At the same time inadequate and unhygienic bathrooms and toilets,

80% of which did not have enough water, and this would compromise the quality of the physical facilities. The results of the test reveal that adequacy of physical facilities influences quality of learning environment, however planning for physical facilities do not. Only through proper building design, sound construction practices, and effective administration of building codes and verification programs, can ensure hazard-free buildings for occupants. Therefore, the government through the Ministry of Education needs to revise and provide school building regulatory framework and building codes for proper construction of quality educational facilities. The government needs to have regular inspections supervision, monitoring and evaluation to ensure compliance with the set standards. In order for an educational facility to be successful in meeting the needs of learners, proper process of planning, designing and construction must be followed (Higgins et al, 2005). Schools with physical facilities that are poorly planned, designed and constructed are unhygienic, uncomfortable, and generally not conducive for effective teaching and learning (Fisher 2004). The government to use qualified building constructors and to recruit inspectors to offer guidance to schools during the process of building and construction of school physical facilities to ensure provision of adequate quality learning environment.

5. References

- i. Abend, A., Omstein, S., Baltas, E., Waston, C., Langage, K., & and Von Ahlefeld, H. (2006). Evaluating Quality in Educational Facilities, Programme on Educational Buildings. Paris: OECD publishing.
- ii. Aikens, N. L. & Barbain, O. (2008). Socio-economic difference in reading trajectories: The contribution of family neighbourhood and school context. *Journal of Educational Psychology*, 100, 235-251.
- iii. Bert, V. (2011). The impact of school facilities on learning environment; A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy. Capella University. United States of America.
- iv. Building Educational Success Together partners [BEST] (2001), Building Successful School. New York. Retrieved on May 8, 2012 from http://www.schfacilities.org/com/successful_school_building.html.
- v. Cash, C. (1993). Building Condition and Students Achievement and Behavior. Blackburg, Virginia Polytechnic Institute and State University: Unpublished Doctorate Dissertation.
- vi. Eartman, G. (2004). Prioritization of 31 criteria for school building adequacy. Baltimore: American Civil Liberties Union Foundation of Maryland.
- vii. Fisher, K. (2004). Building better outcomes: The impacts of school infrastructure on student outcomes and behaviour; Canberra: Schooling Issues Digest: Department of Education, Training and Youth Affairs.
- viii. Healthy Schools Network, (2013), Healthy and high performance schools: ESEA—No Child Left behind act of 2001 Retrieved on 2016 from http://www.healthyschools.org/HHPS_Act_2002.pdf
- ix. Kenya Law Report (2012). Ministry of Education Revised Education Act, published by National Council for Law. www.kenyalaw.org.
- x. Likoko, S. Mutsotso, S. & Nasongo, J. (2013). Adequacy of instructional materials and physical facilities and their effect on quality of teacher preparation in colleges in Bungoma county. *International journal of science and research (IJSR)*.
- xi. Ministry of Education, (2010). Child Friendly School Manual. Kenya: Ministry of Education- Government printer.
- xii. Mugenda, O., & Mugenda, A. (1999). Research Methods: Quantitative and Qualitative Approaches. Nairobi: Acts press.
- xiii. Munda, S. &. (2010). Relationship between selected physical facilities and student's achievement performance in secondary schools Bungoma district. Kenya: MED thesis Masinde Muliro University.
- xiv. Ndirangu, M & Udoto, O. (2011). Quality of learning and learning Environment: Challenges for teaching and learning Kenya's public university. *Quality assurance in education*, Vol.19 no3.
- xv. Njuguna, B., Chegge, M., Thinguri, R., & Makatiani, M., 2014. Effectiveness Of Supervision In Enhancing Management Of Educational Facilities In Secondary Schools In Kajiado Sub County, Kenya.
- xvi. Nyakundi, E. (August 2010). Provision of Quality Educational Building and Facilities. A Paper Prepared for the proceedings of second national workshop for the Educational Management Society of Kenya (EMSK) at Kabarak University on 26th to 28th Aug, 2010. Theme: Resource for Quality educational Development in Kenya.
- xvii. Ogundele, M. O. & Moronfoye, S. A (2013). Infrastructural facilities and academic goals achievement of Kwara state tertiary institutions, Nigeria. *Journal of vocational education & technology*, Vol.10, Nos. 1&2.
- xviii. UNESCO. (2006). Fact book on Education For All (EFA). Nairobi: Kenya.