

IMPACT OF SCHOOL FACILITIES AND MAINTENANCE ON SCIENCE TEACHERS' JOB PERFORMANCE IN SENIOR SECONDARY SCHOOLS IN GWAGWALADA AREA COUNCIL ABUJA

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Abstract

The study investigated the impact of school facilities and maintenance on science teachers' job performance among senior secondary school in Gwagwalada area council of Abuja. The population of the study consisted of all the 133 science teachers teaching Biology, Physics and Chemistry in Gwagwalada Area Council in FCT Abuja. A sample of 93 science teachers were selected using purposive sampling technique considering school location, time and accessibility factors. Questionnaire on the impact of school facilities and maintenance on science teachers job performance (QUSFOSTEJOP) was used for the purpose of data collection. The instrument was validated by experts in science education and education supervisor in Gwagwalada Area Council whose inputs were used to adjust the items in the questionnaire. A reliability coefficient of .079 was obtained using Cronbach alpha (KR-20). Two research questions and One null hypothesis, were answered in the study. The result indicated that there is a weak positive correlation between safety and security and school environment and job performance ($\rho = 0.270$, $P > 0.05$) of science teachers. It was thus recommended that, the area council should provide security and the enabling environment for science teachers to be effective in the discharge of their responsibility

Keywords: School facilities, Maintenance, safety and Security, Job performance

Background to the Study

The primary purpose of education is to bring about desirable change in behaviour through acquisition of skills, attitudes, competencies, critical and creative thinking. This cannot take place without adequate school facilities and secured environment for teaching and learning. Teaching is a complex and demanding task that requires highly specialized skills, knowledge and resources to impact significantly on student learning. The maintenance of resources in an organization are important in achievement of its goals and objectives. Students learning outcome is influenced by appropriate utilization of school resources. Investing in educational resources is the key to ensuring that schools become institutions where students work together, learn from each other and benefit from a supportive school environment, and consequently maximize student learning so that all students achieve their full learning potential (United Nations Scientific and Cultural Organization, (UNESCO), 2017).

Gradually, our public schools in Nigeria appears to lacking in school facilities which can attested to decline in teachers' productivity and students' performances in both internal and external examinations. School facilities in any school ranges from the school buildings, classroom, library, laboratories, and toilet facilities, learning materials to other infrastructures that would likely motivate teachers towards teaching and intricately improve students' academic performance. Experience has shown that most of the school facilities that are relevant to

effective job performance of teachers and learning/academic performance of students appear not to be sufficient in our public secondary schools. Those available seem not to be of standard quality, some seem to lack maintenance culture, while some are in dilapidated conditions. In support of this, Afework and Asfaw (2014) submitted that school facilities enable the teacher to accomplish his or her task as well and aid the learner to learn and achieve effectively. In addition, the researcher emphasized that the availability and proper use (maintenance) of school facilities can affect the interest of the teacher to teach effectively in turn that positively affects student's academic achievement.

Science teachers who want to teach Science subjects and develop desirable attitudes, interest, appreciation, understanding, habits, abilities, knowledge and skills requires a stimulating environment. A stimulating school environment enables the teachers to teach a variety of activities with broad-base ideas about what the students are likely to learn or respond to. This makes it possible for both the teachers and the students to work cooperatively and productively towards attainment of educational goals. School environmental variables that affect teaching and learning include the following: Science and Computer laboratories, library facilities, adequate classroom facilities, workshop facilities and play grounds to mention but a few. Teachers and other personnel to manage and service the school facilities are the teaching, non-teaching and the administrative staff of the school. The availability of those resources and facilities in a given school environment influence the teaching, learning and the performance of both the teachers and the students (Nsa, *et al.*, 2012). Adeyemi (2008) submitted that performance is a measure of educational output. Academic performance can be viewed as the extent to which an individual learner acts or does a piece of work, how well or poor he/she does the job or the activities within a learning process. Poor performance however can be regarded as having performed below the required academic performance. Akomolafe and Adesua (2016), referred to poor performance as performance that fall below the desired standard.

Recent studies have emphasized the importance of the availability of physical school facilities. Summarizing Akomolafe and Adesua (2016) the researchers emphasized that the availability of these resources are quite important to achieving effectiveness in instructional delivery and supervision in the school system. The researchers further buttressed the fact that non-availability of basic facilities such as classrooms, office accommodation, workshops, sporting facilities, laboratories, library et cetera which is being experienced in secondary schools is a perfect reflection of what obtains in the university system.

In support of the above, Khan and Igbal (2012) posited that well sited school buildings with aesthetic conditions, laboratory and playground often contribute to improved performance in the school system. The researchers also argued that the availability of school building and other plant facilities are very important as they could enhance effective teaching and learning. Sampson (2011) is of the view that adequate facilities are essential for academic work. Also, in support of this Ones to and Bernard (2016) claimed that for effective teaching to take place in any educational setting there must be provision of adequate and quality school facilities.

These facilities play a pivotal role in the actualization of the educational goals and objectives by satisfying the physical, emotional and cognitive needs of the staff and students. Abayomi and Olukayode (2006) states that resources in schools are important in education because learning takes place best through discovery, exploration, and interaction with the internal and external environments. The adequacy of physical resources and teaching materials as well as their effective utilization has been a matter of serious concern to educators. The utilization of resources in education brings about fruitful learning outcomes since it stimulates and motivates

students (Okorie, 2011). Furthermore, Ibe-Bassey (2002) agrees with this view and adds that several studies have shown that a close relationship exists between the physical environment and the academic performance of students. Reedy (2006) adds that the availability of physical facilities and the overall atmosphere in which learning takes place bears direct relevance to the quality of education that students receive in schools. In another study carried out by Okunamiri (2013) on the provision and utilization of school facilities in some selected secondary schools in Nigeria, his findings revealed that although facilities were adequately provided in some schools, they were not effectively utilized. He further emphasized on the need to ensure effective and efficient realization of the goals and objectives of the educational system. This implies that the availability of school facilities alone does not enhance teaching and learning; rather it is the adequate utilization of these facilities that can only motivate teachers to teach and enhance science teachers' job performance. Therefore, this study seeks to determine the extent to which school facilities and maintenance could influence science teachers job performance in Gwagwalada Area Council of FCT Abuja, Nigeria.

Aim and Objectives of the Study

The aim of this research is to determine the impact of school facilities and maintenance on science teachers job performance among senior secondary schools' in Gwagwalada Area Council of FCT, Abuja. Specifically, the study achieved the following objectives:

Research Questions

The following research questions guided the study:

- 1: Are the school facilities available to science teachers adequate for job performance in senior secondary schools in Gwagwalada Area Council, FCT, Abuja?

- 2: What is the safety and security measures put in place for maintenance of the school facilities in the senior secondary schools in Gwagwalada Area Council of Abuja?

Null Hypothesis

One null hypothesis was postulated and tested at 0.05 alpha level:

HO₁: There is no significant relationship between the school safety and security and environment on Science teachers' job performance in Gwagwalada Area Council of Abuja.

Research Methodology

The research design adopted for the study was a descriptive survey. The design was considered appropriate for generating the necessary information required for the study. The population consisted of all science teachers' teaching Physics, Chemistry and Biology in Gwagwalada Area Council senior secondary schools in Federal Capital Territory (FCT) Abuja. A sample size of ninety-three (93) science teachers were selected across the senior secondary schools using purposive sampling technique due to their spread (locations), time factor and accessibility. A questionnaire on the impact of school facilities and maintenance on science teachers' job performance was used in data collection. The items were Likert-scale types, a checklist and categorical response (YES/NO). the instrument was validated by experts in science education and senior inspectors of education in Gwagwalada Area Council who approved the items on the questionnaire. A reliability coefficient of 0.79 was obtained for the instrument using the Cronbach alpha (KR-20). The questionnaires were personally distributed by the researcher considering the locations of schools and identification of the responses which must be the

science teaching disciplines. Questionnaire collected were carefully sorted and then analyzed using simply frequencies, Means (\bar{X}), Standard Deviations and Spearman Rank-order (ρ). In addition, descriptive charts (Bar & Pie) were used to further describe the analyzed data.

Results and Discussion

The data collected were analysed and presented as follows:

Research Questions 1: Are the school facilities available to teachers adequate for job performance in senior secondary schools in Gwagwalada Area Council, FCT, Abuja?

Table 1: Adequacy of items for the School Facilities

S/N	ITEMS	N	Mean (\bar{X})	SD	Decision
1	Library	93	1.76	0.427	AD
2	Science Laboratories	93	1.29	0.456	NAD
3	Teachers Offices	93	1.82	0.389	AD
4	Conveniences (Toilets)	93	1.31	0.466	NAD
5	Furnished Classrooms	93	1.06	0.247	NAD
6	Preparatory Room for Science Subjects	93	1.13	0.337	NAD
7	School Clinic	93	1.11	0.311	NAD
8	School Incinerator (for waste Disposal)	93	1.32	0.47	NAD
9	School Botanical Garden (Animal husbandry)	93	1.19	0.397	NAD
10	Water Tanks/Aquarium	93	1.62	0.487	AD
11	Electricity Supply/Generating Plant	93	1.29	0.456	NAD
Grand Mean			14.9	4.443	NAD

Adequate (AD) and Not Adequate (NAD)

Table 4.1 shows the result of analysis adequacy of school facilities for science teachers job performance. The result indicates adequacy in the distribution of libraries, teacher offices and water in the schools with Mean (\bar{X}) of 1.76, 1.82 and 1.62 respectively. There is however inadequate distribution of toilets, furnished classrooms, laboratory preparatory rooms, school clinic, waste disposal bins, botanical gardens and electricity supply. The grand Mean (\bar{X}) indicates that, there is generally inadequate distribution of school facilities in Gwagwalada area Council in FCT Abuja.

Research Question 2: What is the safety and security measures put in place for maintenance of the school facilities in the senior secondary schools in Gwagwalada Area Council of Abuja?

Table 2: Analysis on safety and Security measures put in schools

S/N	Items	N	YES (%)	NO (%)
1	Are there Hidden Surveillance Cameras installed in school?	93	0.00	100

2	Does the School Administrator (Principal) carryout Constant Surveillance/ Monitoring of facilities?	93	51	53.7	42	46.2
3	Does your school have Security guards?	93	29	31.2	64	68.8
4	Is the school fenced in order to secure school property	93	39	41.9	54	58.1
5	Are there Fire Extinguishers and Sand buckets available in Laboratories?	93	12	12.9	81	87.1
6.	Do you have First Aid Boxes for emergency treatments?	93	79	84.9	14	15.1
	Grand		202	36.2	356	63.8

Table 2 shows that, even though there are several security measures in place in the secondary schools, there are no surveillance cameras with all the respondents (100%) confirming it. Fire extinguishers and sand buckets are also not available in schools (87%). However, there are first aid boxes for treatment of emergence health hazards in most of the schools (84.9%). Security guards and perimeter fence around the school to safeguard school property and students received a below average score of 31% and 42% respectively.

Analysis of Null Hypothesis

HO₁: There is no significant relationship between the school safety and security and environment on Science teachers' job performance in Gwagwalada Area Council of Abuja.

Table 3: Correlational Analysis between school safety and security and environment on Science teachers' job performance

Variables	Mean X	Standard Deviation SD	rho	p-value
School Safety & Security	10.53	0.775	0.270	0.799
School Environment	28.77	2.663		

Table 3 shows a Spearman Rank-Order (rho) analysis of relationship between school safety and security and environment on Science teachers' job performance in Gwagwalada Area Council of Abuja. The result indicated a correlation of $\rho = 0.270$, $P > 0.05$ which is a weak positive correlation. The hypothesis is thus not rejected which meant that, there is no significant relationship between school safety and environment on science teachers job performance in Gwagwalada are council of FCT Abuja.

Discussion of findings

The finding on adequacy of the school facility for science teachers job performance, the result indicates that science laboratories, toilets, furnished classroom, electricity supply/generating plant, water tank/Aquarium, incinerators are not adequate thus liable to affecting science teachers job performance. This result corroborate earlier study conducted by Okunloye (2013) claimed that, only few secondary schools have science laboratories to carry out scientific experiments in subject such as Chemistry, Biology and Physics. This is no far from the opinion

of Mayama (2012) had identified overcrowded classrooms as one of the causes of poor school performance and examination malpractice while teaching and class management becomes very difficult. So, inadequate school facilities pose problem of class management for the teacher and even could lead to absenteeism amongst students.

The finding on the types of safety and security measures put in place in the secondary schools indicated that, there is completely no school with surveillance camera and fire extinguishers while sand buckets are not available in laboratories. There are no fence and security guards in the schools. This is confirming the view of Ani (2012) that government must ensure safety, security and maintenance in schools, and organize periodic workshops on safety and security issues for school administrators.

The null hypothesis on the relationship between safety and security and school environment on science teachers job performance revealed a positive but weak correlation with $\rho = 0.270$, $P > 0.05$. The hypothesis was not rejected because even though there is correlation but very weak sufficiently not enough to say there is strong positive correlation between safety and environment towards enhancing science teachers job performance. In a study conducted by Opondo and Ajowi (2015) revealed that conditions of work influence work performance of support staff. The study also found that support staff in Rarieda Sub-County work under poor conditions. They experienced challenges such as inadequate working tools, low salary, inadequate housing and are overworked. In coping with the challenges faced, support staff carried tools from home, engaged in small scale businesses and odd jobs, commuted from their homes and others who are unable to cope persevered. This meant that, there is a strong correlation between working condition and task completion in any social setting at the school.

Conclusion

The study revealed that school facilities and maintenance with respect to security and school environment are key factors that have influenced science teachers towards job performance of teaching science in Gwagwalada area councils' schools in FCT, Abuja, Nigeria. Therefore, the study has revealed that, there is a correlation between school facilities and science teachers job performance which was a positive weak correlation.

Recommendations

From the findings of this study, the researcher wish to recommend the following:

1. That Gwagwalada Area Council should deliberately put measures in place to provide libraries, toilets and other physical facilities in the schools.
2. Perimeter fence should be built around the schools to provide of lives and properties of the school. This becomes necessary now more than ever before due current insecurity faced in the country and Gwagwalada proximity to Abuja makes even more important
3. School environment should made more conducive for science teachers to perform their role of teaching optimally if good results are to be obtained by students.
4. The Area Council Education; department should improve science teachers working conditions by taking up full payment of support staff salaries, increasing support staff salaries, putting up houses for support staff, recruiting more support staff to enable schools acquire enough working tools.

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