

Effects of Physical Working Condition on Effective Teaching and Learning in Public Secondary Schools of Bwari Area Council Abuja, Nigeria

Marcus Garvey Orji¹, Akhimien Emmanuel², Nweke Pearl Iheoma³, Muhammad Ridwan⁴

¹Department of Entrepreneurial Studies, Veritas University, Abuja, Nigeria

²Federal Inland Revenue Services, Nigeria

³Department of Science Education, Veritas University, Abuja, Nigeria

⁴Universitas Islam Negeri Sumatera Utara, Indonesia

marcusorji@gmail.com, emmakhi2002@yahoo.com, pearlwilliams2002@gmail.com,
bukharyahmedal@gmail.com

Abstract

The status of physical working conditions/facilities especially in Nigerian public secondary schools today appears to be of great concern to educators. It seems that the provisions of these school facilities have dwindled over the years, perhaps due to increase in school enrolment rate which had led to population explosion in public schools. The objective of this study was to examine the effect of physical working condition on effective teaching and learning in public secondary schools of Bwari Area Council Abuja, Nigeria. The study is a survey research and the population of the study consists of 540 teachers of 11 public secondary schools in the Council with sample size of 230 determined using Taro Yamane's formula. Primary data was used through the administration of questionnaire, and the formulated hypotheses tested by Kendal coefficient of concordance method. The findings of the study revealed that Conducive physical working condition; Instructional materials, learning facilities like computers, flips chart and audio-visual disc increases students learning and enhance academic performance; Functional facilities like classrooms furniture's and libraries improve students' reading habits, hence increase their performance. Also, the location of Schools encourages parents to enroll their children in Public Secondary Schools. The study concluded that Physical working conditions and school location are effective tool for educational development in general, has a positive impact on the students 'academic performance. It recommended among others that Federal Capital Education Board Abuja and other Government agencies urgently need to upgrade teaching facilities to meet up with modern demands of secondary school education. Digital facilities should be provided in schools. While the schools' managers on their part should also try to maintain and manage them very well, also Public Secondary Schools should be located in an area that can provide adequate Playgrounds, gardens and common rooms to enable the students have good recreational activities. And all stakeholders in the school system like Parents, Teachers Association (PTA) have a duty to rise up and contribute to upgrade School facilities in Bwari Area Council of Abuja.

Keywords

physical working conditions; functional facilities; school locations; effective teaching & learning; bwari area council



I. Introduction

Physical working condition and environment plays a crucial role in ensuring teachers' job commitment since it may impact teachers' morale, effective teaching and learning in public secondary schools in Nigeria. This implies that a quality Physical workplace environment enables the teachers to put in their best in order to achieve the aim and objective of the institution. While poor quality physical working condition inconveniences the teachers, makes them less committed to their jobs and end up with occupational issues such as absenteeism, lateness to work, high turnover and negligence of duties (Orji and Enobun, 2018). School can be viewed as an organized environment where educational curricular are interpreted. It is a formal structured organization which serves as a transitional stage in life between family and the society. School is a place where the child is prepared to function as an adult, and through this transformation by way of teaching and learning process, whose purpose is to bring about in the learner desirable positive and effective change in the behavior through critical thinking in a more conducive environment which is structured to facilitate learning. The attainment of an effective and efficient teaching and learning is therefore dependent on teacher's quality, the location of the school, the organization and arrangement of physical structures and other school plant and facilities in the school (Wunti, Umar & Igbaji, 2017).

An effective school facility is responsive to the changing programs of educational delivery, and at a minimum should provide a physical environment that is comfortable, safe, secure, accessible, well illuminated, well ventilated, and aesthetically pleasing.

It is in the light of this that this study tends to assess the effect of physical working condition on effective teaching and learning in public secondary schools of Bwari Area Council, Abuja Nigeria.

1.1 Statement of the Research Problem

The status of physical working conditions/facilities especially in Nigerian public secondary schools today appears to be of great concern to educators. It seems that the provisions of these school facilities have dwindled over the years, perhaps due to increase in school enrolment rate which had led to population explosion in public schools. It has been observed that school physical conditions/facilities are essential tools to facilitate and stimulate learning programmes (Akomolafe and Adesua, 2016). Teachers need an ideal working environment, and experience shows that if physical facilities are available, students tend to have interest in learning; this will invariably lead to high performance (Orji & Enobun, 2018). Secondary schools in Nigeria especially Bwari Area Council require adequate teaching, learning, welfare/health sport and recreational facilities such as classroom, chalkboard, computer, internet/ICT, microscope, video CD player, audio CD player, textbooks, projectors, hostel accommodation, laboratories, security, libraries, sports and others recreational facilities to improve students 'academic performances.

The standards and qualities of education have fallen so dangerously because of poor working condition/ environment which results to low commitment by teachers. Additionally, employers are sometimes baffled when their high rated teachers perform below expectations and others will work and leave. Management fails to understand why some teachers are not committed to the organization even though they have sometimes proactively implemented fair compensation policies and other benefits that motivate and retain them (Orji and Enobun, 2018).

Furthermore, Orji and Enobun (2018) stated that the environments where people work, especially in Nigeria public secondary schools is unsafe and unhealthy and need to be re-assessed. Generally, previous researchers have carried out related empirical studies on physical working condition and other related factors in Nigeria secondary schools such as Fabunmi (2007), Torupere (2016), Osuji (2016), Akomolafe and Adesua, (2016) Wunti et al (2017), Enjoh (2018), but there is scanty of study that addressed the effect of physical working conditions on effective teaching and learning in public secondary schools in Bwari Area Council of Abuja Nigeria. This gap the study intends to fill. On the whole, this study will provide answers to the following pertinent questions:

- i. To what extent does learning facilities effect teaching and learning in public secondary schools of Bwari Area Council, Abuja, Nigeria?
- ii. Is there any significant relationship between functional facilities, and teaching and learning in public secondary schools of Bwari Area Council, Abuja?
- iii. How does physical school location effect teaching and learning in public secondary schools of Bwari Area Council, Abuja?

1.2 Research Hypotheses

For the purpose of this research, the following null hypotheses were formulated for validation;

- a. H⁰1: There is no significant effect of learning facilities on teaching and learning in public secondary schools of Bwari Area Council Abuja, Nigeria
- b. H⁰2: There is no significant effect of functional facilities on teaching and learning in public secondary schools of Bwari Area Council, Abuja
- c. H⁰3: There is no significant effect of physical school location on teaching and learning in public secondary schools of Bwari Area Council Abuja, Nigeria.

II. Review of Literatures

2.1 Physical Working Condition

Physical conditions refer to those things that must be available in the working place for effective work to take place. In the context of the school system, they are those things that enable the teacher and students to be able to carry out the teaching/learning process effectively and contribute to the achievement of the school goals and objectives without fatigue and distraction (Ijaduola, 2007, Torupere, 2016)). Also, Felix (2004) opined that a good school organization must have appropriate physical conditions (aesthetic beauty, availability of instructional materials, location, etc) necessary for effective teaching/learning. According to Subair and Awolere (2006), there sbould be maximum presence of physical conditions such as lighting, ventilation, good building constructions, location, instructional materials, sufficient windows, doors, vents and fans to cool the heat during hot season. All these improve work and health of both the teachers and the learners. In the same manner Enjoh (2018) agreed that for successful achievement of academic performance in schools there is need to provide key physical infrastructure which include: school library, classrooms and various types of solid waste disposal. This study agreed with Enjoh (2018).

2.2. School Facilities

The term school facilities refer to the school site, the buildings, the playgrounds, the equipment and other material resources provided in the school for effective teaching and learning operations. School facilities can also be defined as comprising of location, weather, lighting, ventilation, floor, space per pupil, health, and safety conditions, play

areas, cafeteria and library (Osuji, 2016) Also, Ogbaodo (2004) considers school facilities as synonymous with educational facilities which includes buildings such as classrooms, assembly halls, libraries, laboratories, workshop and instructional, materials. Similarly, Oyedeji in Osuji (2016) defines school facilities to include the site, the building and other infrastructures. They went further to say that school facility embraces permanent and semi-permanent structures which includes items such as machines, laboratory equipment, the chalk board and office assistances tools such as brooms and cleaning materials.

2.3 Teaching and Learning Facilities

Teaching can be defined as an attempt to bring out desirable changes in human learning, activities and behaviour. The aim of teaching therefore, is to impact learners to make those desirable changes in their behaviour that contribute to better living (Osuji, 2016). Learning facilities according to Orji & Enobun (2018) refers to the site, building, furniture and equipment that contribute to a positive learning environment and quality of education for all students. The learning facilities available within an educational institution have positive relationship with the quality of teaching and learning activities which in turn leads to the attainment of goals set. The learning facilities of the school building and furniture will determine how long such will last while comfortable classroom. Wunti et al (2017) posited that, learning experience is richest when environment (physical resources) around them meets their needs through its adequacy and effective utilization.

2.4 Theoretical Framework

This study is based on the Human Relations Theory and the System Theory. Human Relations Theory was developed by Elton Mayo and others (1888-1949) as cited in Onday (2016) and Orji & Enobun (2018). The theory believes in the importance of recognizing human beings and their needs as paramount in achieving organizational commitment and high productivity. Human relations theory emphasizes the fact that participation aids management in integrating workers with the organization. Both managers and employees can realize goal and attain stronger commitment and satisfaction. The theory asserts that, there are many needs which employees expect the managers to satisfy. These include conducive work environment, such as effective and timely communication, interpersonal relationship, workload, physical working condition and motivation, to enhance commitment which leads to high productivity. Thus, workplace environment affects employees' commitment in organization. Onuka (2012) asserts that human relations school also believe that effective communication facilitates employees' commitment and participation in decisions that affect them in the work place. This is because people are the main factor of production and unless they have conducive work environment and committed to their work, the organization will die overtime.

On the other hand, a system is a component of parts that makes up the whole. It is the sum total of parts working independently/ interdependently to achieve required results or outcomes based on needs (Osuji, 2016). This implies that a collection of people, resources, concepts and procedures intended to perform some identifiable function or to achieve a goal. A system is made up of input, transformation process, and output; meanwhile, these are surrounded by an environment. The environment of the system is made up of several elements outside the system. In essence they are not input/ output processes, but have influence on the goals and thus the operation of the system.

The system theory considerers a school as a social system which survival depends on the system 's ability to maintain the relative consistency of its processes and the relationship within and outside the systems. That is to say that the outputs reactivate the system (Osuji, 2016). The main aim of school facilities is to ensure that students as well as

teachers are comfortable to teach and learn in order to achieve a great performance. Students, academic and non-academic staffs operate the school facilities in a human social relationship form in order to produce effective and accurate product to the society at large, hence the blending of human relation and system theory for this study.

III. Research Method

This study is a survey research, using data collected from both primary and secondary sources. The secondary sources comprise of mainly text books, journals and periodicals, while primary source was descriptive survey questionnaires

The population of this study comprises of public secondary school teachers in Bwari Area Council, Abuja as contained in the Federal Capital Tertiary Secondary Education Board (FCTSEB) database (2017). There are 540 teachers from the eleven (11) secondary schools in Bwari Area Council, Abuja as given in the table 1:

Table 1. Target Population

S/N	NAME OF SCHOOL	AREA COUNCIL	No of Teachers
1	Government Day Secondary School Bwari	Bwari	58
2	Government Secondary School Bwari	Bwari	79
3	Government Secondary School Byazhin	Bwari	9
4	Government Secondary School Dei-Dei	Bwari	29
5	Government Girls Secondary School Dutse	Bwari	80
6	Government Day Secondary School Dutse Alhaji	Bwari	62
7	Government Secondary School Jibi	Bwari	39
8	Government Secondary School Kawu	Bwari	13
9	Government Secondary School Kubwa	Bwari	83
10	Government Secondary School Mpape	Bwari	39
11	Government Secondary School Shere	Bwari	49
			540

Source; FCT SEB

3.1 Sample Size Selection and Sampling Techniques

This study employed a stratified sampling technique. Consequently, the selection of number of teachers was done using Taro Yemen's formula as follows:

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

Where S = sample size sought
 N = population size
 e = level of significance (0.05)

Therefore, the sample sought is

$$\text{i.e } S = \frac{540}{1+540(0.05)^2} = \frac{540}{2.35} = 230$$

As stated, the study used stratified sampling technique based on the area councils. The study adapted proportionate sampling technique to select the sample of 230 from the eleven (11) schools that had a total population of 540 teachers. This selection was done using random sampling method.

Table 2. Sample Size of Respondents

S/N	NAME OF SCHOOL	AREA COUNCIL	No of Teachers
1	Government Day Secondary School Bwari	Bwari	25
2	Government Secondary School Bwari	Bwari	34
3	Government Secondary School Byazhin	Bwari	4
4	Government Secondary School Dei-Dei	Bwari	12
5	Government Girls Secondary School Dutse	Bwari	34
6	Government Day Secondary School Dutse Alhaji	Bwari	26
7	Government Secondary School Jibi	Bwari	17
8	Government Secondary School Kawu	Bwari	6
9	Government Secondary School Kubwa	Bwari	35
10	Government Secondary School Mpape	Bwari	17
11	Government Secondary School Shere	Bwari	20
			230

3.2 Methods of Data Analysis

The method of data analysis for this study is the simple descriptive percentage method and Kendall coefficient of concordance. The percentage is for the comparisons of respondents that responded for or against a particular question in relation to the over- all respondents expressed as a percentage in order to see the pattern of response. However, the questionnaire measurement of the study used a four-point Likert rating scale as justified by Orji (2017), and Orji & Nduji (2020) who argued that respondents have behaviour of either survey optimizing or satisfying thus, including neutral point could lead to decrease in measurement quality.

Weight was assigned as follows:

Strongly Agreed 4, Agreed 3, Disagree 2, Strongly Disagree 1

The Chi-square derived from Kendall coefficient of concordance method is used in testing a hypothesis concerning the differences between a set of observed frequencies of a sample and a corresponding set of expected or theoretical frequencies.

3.3 Model Specification is

$$W = \frac{12 \sum (R_i - \bar{R})^2}{K^2 (N^3 - N)}$$

Where K = Number of Responses;

N = Number of weighted questions.

\bar{R} = Mean

W = Kendal coefficient of concordance

$X^2 = K (N - 1) W$; $X^2 = \text{Chi-square}$

The Ninety – Five (95%) confidence level was used, where computed value is greater than critical value at 0.05 level of significance, the null hypothesis was rejected and alternative accepted and vice versa.

3.4 Justification of Technique

This method is justified on three reasons:

Kendal coefficient of concordance allows all relevant questions in the questionnaire to be part of the test and result. This position buttressed by Siegel, (1986) is also statistically straight-forward, as justified by Orji, Andah, Chima & Boman, (2017) and Orji & Ezinmou (2019). Also, the study data under analysis was based on the sample drawn from different respondents that cut across every stratum of the teaching staff, as every member of the population cannot be reached. Kendal coefficient is suited for this purpose too according to Orji & Ezinmou (2019).

IV. Results and Discussion

4.1 Results

While carrying out the research, the researchers distributed a total number of 230 questionnaires, and out of this, 140 were returned valid making 61 percent. And according to Smith & Albaum (2010), Orji (2017), Orji, Oyenuga & Ahungwa (2020), 30 percent of sample size is valid for analysis in social science research, hence 61 percent is good for a valid opinion in this study. The figures are indicated in the table below:

Table 3. Kendal Coefficient of Concordance, Table I

S/N0	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (DA)	S/DISAGREE (SD)
WEIGHT	4	3	2	1
Q1 Conducive physical working condition has great effect on teaching and learning in your school?	64	58	6	12
Q2 Instructional materials provided in your school enhance teaching in the class and ultimately helps students' performance?	58	60	8	14
Q3 Learning facilities like computers, flips chart and audio visual disc increases students learning and enhance academic performance?	66	64	4	6
Q4 Functional facilities like classrooms furniture's and libraries improve students' reading habits, hence increase their performance?	60	58	14	8
Q5 The location of your school encourages parents to enroll their children?	64	56	4	16
Q6 Playgrounds, gardens and common rooms are available in your school and they influences effective learning?	54	60	18	8

Source: Field Survey, 2021.

Each cell of Respondents was multiplied by the weight assigned e.g., 64 x 4 = 256

Table 4. Kendal Coefficient of Concordance, Table 2

S/N0	WEIGHT SA	A	D	SD			
	4	3	2	1	Ri	\bar{R}	$(Ri - \bar{R})^2$
1.	256	174	12	12	456	5	25
2	232	180	16	14	442	-9	81
3	264	192	8	6	470	19	361
4	240	174	28	8	450	1	1
5	256	168	8	16	448	-3	9
6	216	180	36	8	440	-11	121
			TOTAL		2706		598

Source: Field survey, 2021.

Ri = Addition of Rows

$$\bar{R} = \text{Mean} = \frac{\sum Ri}{N} = \frac{2706}{6} = 451$$

$$W = \frac{12 \sum (Ri - \bar{R})^2}{K^2 (N^3 - N)}$$

$$W = \frac{12 (598)}{4^2 (6^3 - 6)} = \frac{7176}{16 (216 - 6)}$$

$$= \frac{7176}{3360} = 2.14$$

$$X^2 = \text{Chi-square} = K(N - 1)W$$

$$= 4 (6 - 1) 2.14$$

$$= 20 \times 2.14$$

$$= \underline{42.8}$$

4.2 Discussion

Based on the above, the decision rule is to reject the Null Hypothesis (Ho) and accept the Alternative hypotheses since the calculated X^2 (42.8) is greater than the tabulated (24.996). The tabulated x^2 was arrived at by determining the degree of freedom. The degree of freedom (df) = (c - 1) (r - 1)

C = Column total of observed value

r = Row total

$$= (4 - 1) (6 - 1)$$

$$= 3 \times 5 = 15$$

df at specified level of significance at 0.05 = 24.996 (Fisher and Yates, 1974, in Orji, Andah, Chima, & Boman 2017)). Therefore, we reject the Null Hypothesis at 95% confidence level and critical value of 0.05% level of significance.

This means that;

1. Conducive physical working condition has great effect on teaching and learning in Public Secondary School of Bwari Area Council, Abuja, Nigeria.
2. Instructional materials, learning facilities like computers, flips chart and audio-visual disc increases students learning and enhance academic performance among Public Secondary School in Bwari Area Council, Abuja, Nigeria
3. Functional facilities like classrooms furniture's and libraries improve students' reading habits, hence increase their performance. Also, the location of Schools encourages parents to enroll their children in Public Secondary Schools of Bwari Area Council, Abuja, Nigeria

V. Conclusion

The standards and qualities of education have fallen so dangerously because of poor working condition/ environment which results to low commitment by teachers. The status of physical working conditions/facilities especially in Nigerian public secondary schools today appears to be of great concern to educators. It seems that the provisions of these school facilities have dwindled over the years, perhaps due to increase in school enrolment rate which had led to population explosion in public schools. This study draws its conclusion on the fact that

Physical working conditions like Learning facilities, functional facilities and school location are effective tool for educational development in general, had a positive impact on the students' academic performance.

Recommendations

On the basis of findings and conclusions, the following recommendations are made:

1. Federal Capital Education Board Abuja and other Government agencies urgently need to upgrade teaching facilities to meet up with modern demands of secondary school education. Digital facilities should be provided in schools. While the schools managers on their part should also try to maintain and manage teaching aids like chart, models, public address system, slide picture and projector facilities provided in the Public Secondary Schools of the Area Councils like Bwari
2. Public Secondary Schools in Bwari Area Council should be located in an area that can provide adequate Playgrounds, gardens and common rooms to enable the students have good recreational activities.
3. The quality of education that our students receive bears direct relevance to the adequacy of school facilities and overall environment in which learning takes place. In other words, educational programmes and processes are greatly influenced by the physical working conditions/school facilities, thus all stakeholders in our school system like Parents, Teachers Association (PTA) have a duty to rise up and contribute to upgrade School facilities in Bwari Area Council of Abuja.

References

- Akomolafe, C.O & Adesua, V.O (2016) The Impact of Physical Facilities on Students' Level of Motivation and Academic Performance in Senior Secondary Schools in South West Nigeria' *Journal of Education and Practice*, Vol 7 (4)
- Enjoh, M.P (2018) The Impact of School Facilities on Teaching and Learning in Presbyterian Secondary Schools in the SW of Cameroon' *International Journal of Trend in Scientific Research and Development (IJTSRD)*. Vol 2 (6)
- Fabunmi, M. (2007). Differential; Allocation of Educational Resources and Secondary School Academic Performance in Edo State, Nigeria' Unpublished Ph. D Thesis, University of Ibadan.
- Feliz, J. R. (2004). Office practice for colleges. Boston: John Wiley and Sons
- Ijaduola, K. O. (2007). Video films and sex attitudes of students: Implication on School management. *International Journal of African and American Studies*. (IJAAS), 6 (4), 26-34.
- Onday, O. (2016). Human Resource Theory: From Hawthorne Experiments of Mayo to Groupthink of Janis. *Global Journal of Human Resource Management*, Vol.4, No.1, Pp. 95- 110
- Ogboado, C. M. (2004) *Managing Educational facilities* in Peretomode V. GF. (ed) *Introduction to Educational Planning and Supervision*. Lagos, Joja Educational Resources and Publishing Limited
- Orji, M.G, Andah, Chima, K, Boman, S.A (2017). Impact of New Products Development on the Profitability of Nigerian Deposit Money Banks, *International Journal of Economics, Finance and Management Sciences*. USA, Vol. 5, No. 4, 2017, pp. 213-221. doi: 10.11648/j.ijefm.20170504.12
<http://www.sciencepublishinggroup.com/j/ijefm>. ISSN: 2326-9553 (Print); ISSN: 2326-9561 (Online)
- Orji, M G (2017) Impact of Personality Factors on Consumer Buying Behavior of Textile Materials in South Eastern Nigeria. PhD Thesis, Department of Business Administration, Ahmadu Bello University, Zaria, Nigeria.
- Orji, M.G, Enobun, P.N (2018). Effect of Work Environment on Teacher Commitment to Duty in Selected Secondary Schools of South Eastern Nigeria, 'Management' (MANA) *International Technology and Science Publishers (ITS) United Kingdom*. Vol. 1. PP 61- 78.www.itspoa.com/journal/mana
- Orji, M.G, Ezinmuo, M.E (2019) 'Effect of Financial Incentives on Employee Work Habit and Performance in Nigerian Public Enterprises' *International Journal of Research in Finance and Management*; Vol. 2(2): 13-22.
- Orji, M.G & Nduji, R, (2020) Business Sustainability and Challenges of Climate Change in Nigerian Indigenous Automobile Companies. A case study of Innoson Motors Ltd, Nnewi, Nigeria *Konfrontasi 'Journal: Culture, Economy and Social Changes*, 9 (1) PP, 77-90.
- Orji, M.G, Oyenuga, M & Ahungwa, A (2020) Effects of Sales Promotion on Consumer Buying Behavior of Food Seasoning Among Nigerian House Holds: A Case Study of Nestle Maggi Naijapot' *Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Volume 3, (1), PP: 134-149*
- Onuka, C. A. (2012). Commitment in an Organization. *Journal of Social Psychology*. 4(5), PP 160-170.
- Osuji, J.N (2016) Impact of School Facilities on Students' Academic Performances in Public Secondary Schools in Giwa and Zaria Education Zones, Kaduna State, Nigeria' Unpublished Masters in Education Degree, Faculty of Education Ahmadu

Bello University, Zaria, Nigeria.

- Smith M. S, & Albaum S. G (2010). An introduction to marketing Research, Sage Publishers, NY.
- Siegel, A. (1986). 'Introduction to NonParametric Statistics 'Page publishers, New York.
- Subair, R. O. &Awolere, A. (2006). A perspective on public involvement in management decision making. Public Administration Review. 39, (20) PP 208-217.
- Torupere K (2016). The Influence of School Physical Environment on Secondary School Students' Academic Performance in Bayelsa State' Asian Journal of Educational Research, Vol 4(2) Pp 1-15.
- Wunti, Y.I, Umar, H.A & Igbaji, C (2017) Impact of School Facilities on Students' Academic Achievement' International Journal of Advance Research, Vol. 5(12), PP 878-889.