Sapientia Global Journal of Arts, Humanities and Development Studies (SGOJAHDS), Vol.6 No.2 June, 2023; p.g. 315 – 324; ISSN: 2695-2319 (Print); ISSN: 2695-2327 (Online)

SCHOOL FACILITIES AS PREDICTORS OF STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN ENUGU STATE

REV FR DR ONUBULEZE, FRANKLIN KELECHI
Department of Educational Management, Enugu State University of Science and Technology (ESUT), Agbani, Nigeria

ABSTRACT

This study examined school facilities as predictors of students' academic performance in secondary schools in Enugu State. Two research questions and two null hypotheses guided the study. Descriptive survey design was adopted for the study. The population for the study was 8307 teachers in public secondary schools in Enugu State. The population comprised 2059 male and 6248 female teachers. The sample size was 831 teachers which comprised 206 male and 625 female teachers. Stratified proportionate random sampling technique was used to draw the sample size. Questionnaire was used as the instrument for data collection and was designed to elicit appropriate information from the respondents. The instrument was face-validated by three experts. The reliability co-efficient of the instrument was calculated using Cronbach Alpha statistic which yielded 0.84 and 0.76 for clusters 1 and 2 respectively. The overall reliability index was 0.80 indicating high reliability of the instrument. Mean scores and standard deviation were used to answer the research questions, and t-test statistic was used to test the hypotheses at 0.05 level of significance. The findings of the study showed that ICT facilities and laboratory predict students' performance in secondary schools in Enugu State to a great extent. One of the recommendations made was that the government should provide more ICT facilities to all the secondary schools in Enugu State. Another recommendation is that more laboratory equipment should be provided to schools to enhance the students' academic performance.

Keywords: School Facilities, Predictors, Students, Academic Performance, Enugu State.

Introduction

School facilities provide a real classroom for both learners and teachers. According to Broorde in Olajide, Olanipekun & Obafunmilayo (2021), school facilities are the sum total of the input that goes into the school system. School facilities are the space interpretation and physical expression of school curriculum (Alimi, Ehinola & Alabi, 2012). They are all the things that are used directly or indirectly for the purpose of supporting, facilitating, influencing, transmitting or acquiring of knowledge, competence and skill by the learners. Essentially, school facilities are used for transmission of knowledge and aiding the education and training of the learners. School facilities typically refer to the physical infrastructure and resources available within educational institutions to support teaching, learning, and extracurricular activities. These facilities vary depending on the level of education (e.g., primary, secondary, tertiary) and the institution's size and specialization.

In Nigeria at large and Enugu state in particular, secondary schools, irrespective of ownership and location are expected to function in compliance with the achievement of the national education objectives. They further buttressed the fact that non-existence of these basic facilities such as classroom, laboratory equipment, library, staff room and sporting equipment will

have adverse effect on secondary schools. This perhaps explains the views of Ejie (2010) who perceived school facilities as the main factor contributing to academic achievement in the school system. They include the school buildings, classrooms, libraries, laboratories and recreational equipment among others. In this study, the researcher laid emphasis on the following school facilities which include Information and Communication Technology (ICT) and laboratory equipment as predictors of students' academic performance.

Information and Communication Technology (ICT) is a fusion of Information Technology and Communication Technology. ICT is a network which offers a steadily expanding range of new services that have major economic consequences for the standardization of information in secondary schools (Nwafor, 2015). According to Iboro (2016), Information and Communication technology (ICT) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computers and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. A study conducted by Kashif et al. (2020) showed that ICT predicts students' academic performance to a great extent. The accessibility of a massive extent of facts, resources via internet, improvements of technology in the field of ICT and a prolonged pliability in organizations and corporations has intensified the knowledge boom and information worldwide (Hasan & Sajid, 2013). Information and communication technology (ICT) is considered significant in secondary schools because they are the one of major places a child is exposed to intellectual scrutiny and skills exposure.

Another school facility which could predict students' academic performance in secondary schools is laboratory equipment. In the laboratory, students are engaged in a human enterprise of examining and explaining natural phenomena in a practical way (Glasson in Bajon, 2015). According to Pareek (2019), laboratory facilities are the use of buildings for carrying out scientific research or experimentation or diagnostic work. Laboratory equipment are tools used by scientists who work in a laboratory. They are tools such as: Bunsen burners, burettes, calorimeters among others (Eze, 2012). They are very important as they serve as aids to make teaching effective. They are used to either perform an experiment or to take measurements and gather data. Laboratory experiences provide opportunities for team building, inquiry-based learning, hands-on activities, and exposure to standard laboratory equipment and technology (Arokoyu & Charles-Ogan, 2017).

Gender is a critical variable in this study. Gender refers to the socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women (Matheri, 2015). Okeke (2010) defined gender as a socially constructed role and socially learned behaviours and expectations associated with males and females. In the secondary schools in Enugu State, there are male and female teachers performing their daily tasks.

A teacher is an individual who is trained in pedagogy and teaching areas of a particular subject to impart knowledge, skills, and attitudes to students in an institution. A teacher according to FRN (2013), is the individual that has been professionally trained in any teacher education programmes in any of the following: Colleges of Education, Institutes of Education, National Teacher's Institute, Schools of Education in the Polytechnics, among others.

According to Owan (2012), teachers are great determinants of the success or failure of any school because they are the roots of any tree (any educational system). The quality and availability of school facilities significantly impact teachers' ability to deliver high-quality education.

However, the present state of school facilities today appear to be of great concern to educators and the rate of government negligence to provision of adequate school facilities is on the increase. It seems that the provision of these facilities have dwindled over the years, perhaps due to dwindling economy and increase in school enrolment rate which had led to population explosion in public schools. It has been observed that school facilities are essential tools to enhance teaching and learning activities. Teachers need these facilities to help them in their working environment. Experience has shown that if there are facilities in schools, students enjoy learning and this in turn will not only increase the students' academic performance but also will have a strong and positive relation between them.

Research findings by Gede (2011) on the influences of facilities in secondary schools on students' academic performance are controversial. Researchers had also indicated that the problems of students' academic performance are not only due to teacher or learner factors but also include school factors. Previous studies have dealt with influence of the home and society as predictors of senior secondary school students academic performance. Others focused own school ownership and school type as predictors of students' academic performance but attention has not been focused much on the school facilities. This study, therefore, explored school facilities (ICT and Laboratory equipment) as predictors of students' academic performance in secondary schools in Enugu State.

Statement of the Problem

The public secondary schools in Nigeria especially in Enugu state have been faced with series of challenges which have negatively affected the academic performance of the students. The rate of poor academic performance of students is worrisome and had resulted to economic and social wastages. It has become a concern to stakeholders in education especially post primary education board of Enugu State. For instance, in 2018, only 45.94% of the students had credits pass in English Language and Mathematics. Also in year 2019, the breakdown of results in West African Senior School Certificate Examination (WASSCE) and National Examination Council (NECO) indicated a mass failure across the 36 states of the Federation. Enugu state which is the focus of this study has less than (5%) of the candidates who sat for the examination made five credits and above in NECO and WASSCE. Some stakeholders have argued that this is as a result of inadequate provision of facilities. According to them, some existing ones seem to be in a dilapidated state. These facilities which range from laboratory equipment and ICT facilities to mention but a few have been found to enhance students' academic performance. It is against this background that this study became imperative to determine the extent to which school facilities serve as predictors to students' performance in secondary schools in Enugu State.

Purpose of the Study

The general purpose of the study was to determine the extent to which school facilities are predictors of students' performance in secondary schools in Enugu State. Specifically, the study sought to determine the extent to which:

1. Information communication and technology predicts students' performance in secondary schools in Enugu State.
2. Laboratory equipment predicts students' performance in secondary schools in Enugu State.

Research Questions

The following research questions guided the study:

1. To what extent does ICT predict students' performance in secondary schools in Enugu State?
2. To what extent does laboratory equipment predict students' performance in secondary schools in Enugu State?

Hypotheses

The following hypotheses were tested at .05 level of significance and at appropriate degree of freedom.

Ho_1: There is no significant difference between the mean scores of male and female teachers on the extent to which ICT predict students performance in secondary schools in Enugu State.

Ho_2: There is no significant difference between the mean scores of male and female teachers on the extent to which laboratory equipment predict students' performance in secondary schools in Enugu State.

Research Method

The research adopted descriptive survey research design. Leedy & Ormrod (2013), defined descriptive survey research design as a design used to study population which allows for selecting, studying and analyzing sample chosen from the target population, from which inferences/generalization are made about the entire population. The population for the study was 8307 teachers in public secondary schools in Enugu State. The population comprised two thousand 2059 male and 6248 female teachers. The sample size was 831 teachers which comprised 206 male and 625 female teachers. Stratified proportionate random sampling technique was used to draw the sample size. Questionnaire was used as the instrument for data collection and was designed to elicit appropriate information from the respondents. The instrument was face-validated by three experts.

Furthermore, a four point scale with assigned values was used to rate the responses to the questionnaire items as follows: Very Great Extent (VGE) = 4 points, Great Extent (GE) = 3 points, Low Extent (LE) = 2 points and Very Low Extent (VLE) = 1 point. The reliability co-efficient of the instrument was calculated using Cronbach Alpha statistic which yielded 0.84 and 0.76 for clusters 1 and 2 respectively. The overall reliability index was 0.80 indicating high reliability of the instrument. The research questions were answered using mean and standard deviation. In rating the mean, each response option had a numerical value based on real limit of numbers: VGE = 3.50-4.00; GE= 2.50-3.49; LE = 1.50-2.49; VLE = 0.00-1.49. The hypotheses were tested using t-test statistic at 0.05 level of significance. The interpretation of the test of

hypotheses was based on the significance (sig.) values from the SPSS output. The null hypotheses were not rejected when the significance values are less than 0.05, but rejected when greater than 0.05.

Data Analysis and Results Presentation

Research Question 1: To what extent does ICT predict students' performance in secondary schools in Enugu State?

Table 1: Mean ratings of male and female teachers on the extent to which ICT predicts students performance in secondary schools in Enugu State

S/N	ITEMS	Male Teachers n=206			Female Teachers n=625		
	The following are the extent to which ICT predicts students' performance:	$\bar{x}$	**SD**	**Dec**	$\bar{x}$	**SD**	**Dec**
1	ICT improves communication among students.	2.59	0.88	GE	2.61	0.88	GE
2	It stimulates students learning.	2.52	1.01	GE	2.51	0.99	GE
3	It helps students in accessing information.	2.66	0.89	GE	2.55	0.91	GE
4	It helps in data processing.	2.69	0.90	GE	2.59	0.89	GE
5	ICT leads to high computer literacy on students.	2.58	0.91	GE	2.79	1.06	GE
6	It empowers students to learn new skills.	2.63	1.03	GE	2.53	0.92	GE
	Grand Mean	**2.61**	**0.94**	**GE**	**2.60**	**0.93**	**GE**

The data presented on Table 1 above shows that the responses of the respondents were all to a great extent. The male teachers' mean ranged from 2.52 to 2.69 while the female teachers' ranged from 2.51 to 2.79. The male and female teachers have grand mean ratings of 2.61 and 2.60 as well as corresponding standard deviations of 0.94 and 0.93 respectively. This signifies that, the respondents responded to a great extent that the items on table 1 are the extent ICT predicts students' performance in secondary schools in Enugu State.

Research Question 2: To what extent does laboratory equipment predict students' performance in secondary schools in Enugu State?

Table 2: Mean ratings of male and female teachers on the extent to which laboratory equipment predict students' performance in secondary schools in Enugu State

S/N	ITEMS	Male Teachers n=206			Female Teachers n=625		
	The following are the extent to which laboratory equipment predict students' performance in Sec. Schools in Enugu State	$\bar{x}$	**SD**	**Dec**	$\bar{x}$	**SD**	**Dec**

7	Laboratory enhances the acquisition of science process manual skills.	2.66	0.88	GE	2.56	0.78	GE
8	It enhances effective science education in schools.	2.50	0.91	GE	2.59	0.87	GE
9	It helps students to discover knowledge on their own.	2.54	0.81	GE	2.51	0.86	GE
10	Laboratory ensures students learn through experience.	2.61	0.88	GE	2.68	0.88	GE
11	It improves students' conceptual understanding of science concepts.	2.58	0.76	GE	2.51	0.82	GE
	Grand Mean	**2.58**	**0.85**	**GE**	**2.57**	**0.84**	**GE**

The data presented on Table 2 above show that the responses of the respondents were all to a great extent. The male teachers' mean ranged from 2.50 to 2.66 while the female teachers' ranged from 2.51 to 2.68. The male and female teachers have grand mean ratings of 2.58 and 2.57 as well as standard deviations of 0.85 and 0.84 respectively. Thus; the respondents responded to a great extent that the items on table 2 are the extent laboratory equipment predicts students' performance in secondary schools in Enugu State.

Ho_1: There is no significant difference between the mean scores of male and female teachers on the extent to which ICT predict students performance in secondary schools in Enugu State.

Table 3: t-test on the mean scores of male and female teachers on the extent to which ICT predicts students' performance in secondary schools in Enugu State

Group	n	$\bar{x}$	SD	df	p-value	Decision
Male Teachers	206	2.61	.94			
				829	.147	H_{01} not rejected
Female Teachers	625	2.60	.93			

Data in Table 3 for male and female teachers on the extent to which ICT predict students' performance in secondary schools show that at 829 degree of freedom, the p-value was .147. The outcome of the p-value is greater than 0.05 level of significance set for this study. This signifies that the null hypothesis was not rejected and, therefore, there was no significant difference between the mean scores of male and female teachers on the extent to which ICT predict students performance in secondary schools in Enugu State.

Ho_2: There is no significant difference between the mean scores of male and female teachers on the extent to which laboratory equipment predict students' performance in secondary schools in Enugu State.

Table 4: t-test on the mean scores of male and female teachers on the extent to which laboratory equipment predicts students' performance in secondary schools in Enugu State

Group	n	$\bar{x}$	SD	df	p-value	Decision
Male Teachers	206	2.58	.85	829	.109	H_{02} not rejected
Female Teachers	625	2.57	.84			

Data in Table 4 for male and female teachers on the extent to which laboratory equipment predict students' performance in secondary schools show that at 829 degree of freedom, the p-value was .109. The outcome of the p-value is greater than 0.05 level of significance set for this study. This signifies that the null hypothesis was not rejected and, therefore, there was no significant difference between the mean scores of male and female teachers on the extent to which laboratory equipment predict students performance in secondary schools in Enugu State.

Discussion of Findings

The finding of the study showed that Information and Communication Technology predicts students' performance in secondary schools in Enugu State. The finding of the study is in line with Kashif et al. (2020) who posited that ICT predicts students' academic performance to a great extent. The finding also agrees with Hasan & Sajid (2013) who posited that ICT helps students in achieving academic success. The null hypothesis tested showed that there was no significant difference between the mean scores of male and female teachers on the extent to which ICT predict students performance in secondary schools in Enugu State.

The finding of the study showed that laboratory equipment predicts students' performance in secondary schools in Enugu State. The finding of the study is in line with Kashif et al. (2020) who posited that laboratory equipment predicts students' academic performance to a great extent. The null hypothesis tested showed that there was no significant difference between the mean scores of male and female teachers on the extent to which laboratory equipment predict students performance in secondary schools in Enugu State.

Conclusion

The study investigated school facilities as predictors of students' academic performance in secondary schools in Enugu State. The two variables studied were found to be predictors of academic performance of students in secondary schools in Enugu State. Therefore, school facilities are essential factors in the fulfillment of school educational programmes and the overall educational goals of the nation.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The government should provide more ICT facilities to all the secondary schools in Enugu State.
2. More laboratory equipment should be provided to schools to enhance the students' academic performance.

References

Alimi, O.S., Ehinola, G.B. & Alabi, F.O. (2012). School Types, Facilities and Academic Performance of Students in Senior Secondary Schools in Ondo State, Nigeria. *International Education Studies, 5*(3); 44-48.

Arokoyu, A.A. & Charles-Ogan, G.I. (2017). Availability and utilization of laboratory kits for practical teaching of mathematical skills in chemistry. *American Journal of Mathematics and Statistics, 7*(4),

Bajon, R.H. (2015). Effect of mode of laboratory work on senior secondary school students' achievement in Biology in Jalingo Local Government Area of Taraba State. *Unpublished Dissertation.* Department of Science Education, University of Nigeria Nsukka.

Ejie, U.O. (2010). The importance of school facilities on a child education. *European Journal on International Education, 11*(5): 9-13.

Federal Republic of Nigeria. (2013). *National Policy on Education*. (4th Edition). Lagos: NERDC.

Gede, N. T. (2011). Provision and Management of School Facilities for the Implementation of UBE Programme. *Journal of Educational and Social Research, 1*(4); 47-56.

Hasan, T. & Sajid, A.R. (2013). ICTs in Learning: problem faced by Pakistan. *Journal of Research and Reflections in Education*, 54-64.

Iboro, O.U. (2016). Examination of ICT compliance and utilization for curriculum delivery among social studies teachers in Nigeria. *International Journal of Education, Learning and Development*, 4(7), 1-10.

Kashif, I., Nor, A.M.Z., Fadhilah R., Adnan, A. & Mustansar, I. (2020). The impact of ICT on students' academic performance in public private sector universities of Pakistan. *International Journal of Innovative Technology and Exploring Engineering, 9*(3); 1117-1121.

Leedy, P.D. & Ormrod, J.E. (2013). Practical Research: Planning and Design. 10th Edition, Merrill/Prentice Hall, Boston.

Nwafor, S.O. (2015). Information Technology. A modern tool for the administration of universities in Rivers State. *Nigerian Journal of Educational Administration and Planning, 5*(2); 184-188.

Olajide, S.O., Olanipekun, B.V. & Obafunmilayo, A.O. (2021). Influence of school facilities on students' academic performance in Basic Science and Technology in junior secondary schools in Osun State, Nigeria. *International Journal of Innovative Research and Development*, 10(2), 182-186.

Owan, V.J. (2012). *Some causes of poor performance of pupils in primary school mathematics. A case study in Akamkpa L.G.A Cross River State. Retrieved from https://goo.gl/NTTxqc*

Pareek, R.B. (2019). An assessment of availability and utilization of laboratory facilities for teaching science at secondary level. *Science Education International*, *30*(1), 75-81.