Environmental Factors Affecting Students' Academic Performance in Public Senior Secondary Schools in Anambra State, Nigeria

[1]Hilda Chigozie OKOYE, [2]Lawrence Uchenna OKOYE, [3]Johnson I. OKOH, [4]Felix N. EZEJI, [5]Alexander Ehimare OMANKHANLEN, Kester C. ONOR,

[1]Department of Educational Management and Planning,
Abia State University Uturu-Okigwe, Nigeria.
[2]Department of Banking and Finance,
Covenant University, Ota, Nigeria
Department of Financial Studies,
National Open University of Nigeria.
[4]Department of Banking and Finance,
Ebonyi State University, Abakaliki, Nigeria
[5]Department of Banking and Finance,
Covenant University Ota, Nigeria
[6]Department of Political Science, Covenant University Ota, Nigeria

ABSTRACT

Declining academic performance among students has remained a recurring irritant in Nigeria's educational system, in spite of all efforts of government and major stakeholders to change the narrative in the education sector. Since all teaching and learning activities take place within an environment, it is expected that the outcome of the education process correlates significantly with the teaching-learning environment. Following the method of survey design, this research identifies environmental factors that influence learning outcomes based on a sample of 624 respondents from public secondary schools in Anambra State. Multi-stage sampling technique is used in the sample selection, first to choose two senior secondary schools from each of three senatorial zones of the state. A second sample made up of 522 students and 102 academic instructors was drawn on proportionate basis from the previously selected sample of six senior secondary schools. The study presents robust evidence that students' family background, proximity of home to school, level of training/professionalism attained by teachers, as well as school structure greatly determine how students perform in these institutions and thereby concludes that environmental factors play significant roles in the promotion of high educational achievement among students at the senior secondary level.

INTRODUCTION

Education is the process through which a society perpetuates itself. It is a basic tool for the development and empowerment of members of the society. Education offers a platform for society to transmit its stock of knowledge, values and skills to future generations. Basically,

education aims at promoting understanding and judgement, and enabling action. It equips the individual for decisions that improve the quality of life (George, Okoye, Efobi and Modebe, 2017); it also promotes literacy and awareness, and confers responsibility to make decisions which guarantee better life for individuals in particular and the economy in general (Okoye, Omankhanlen, Okoye, Urhie, Okoh and Ezeji, 2019)

At the early days of education, the primary goal was to educate the child, no matter the environment (Wagner, 2017). This goal derives from the philosophy that something was better than nothing, which implies that any learning environment was better than no learning environment. As learning cannot take place in vacuum, any available environment was acceptable. However, with the growth in literacy rates across the globe over the years, there has been a paradigm shift by educational administrators to improvement in the quality of education, with great attention attached to the environment of education.

The environment is critical to the development of individuals in the society. In the school system, for instance, environment determines whether a child will be happy and ready to learn or become a deviant. The physical, social and psychological or emotional environments must be such that every aspect of human behaviour is warmly accommodated. Education is an important industry for social, political and economic development and it is affected by the environment within which it is conducted (Adediran, Ojomo & Adeyanju, 2015). The physical environment can determine the comfort of students and thereby their learning ability (Falsario, Muyong and Neuvaespana, 2014). When students are uncomfortable, they are easily distracted and are not likely to learn faster than their peers whose environments are quite comfortable.

Wagner (2017) posits that students' behaviour towards academic performance can be influenced through provision of an environment that balances and controls stimulants to the five human sensory organs: sight (what learners see), hearing (do they hear their teacher or noise from outside?), touch (is the temperature too hot or too cold?), smell (does the scent from deodorant or cleaning liquid support or disrupt learning?), and taste (there should be provision for food and drinks because hunger can disrupt learning). Wagner further alludes to substantial evidence that educational objectives like reading comprehension, multiplication and reading speed can be influenced by the study environment.

According to Olufemi, Adediran and Oyediran (2018), students' academic performance is affected by several factors which include students' learning skills, school environment, parental background, peer influence, teachers' quality, learning resources and infrastructure, among others. The school environment, for instance, supports the acquisition of academic knowledge. School environment refers to the quality and characteristics of school life, both social and physical aspects of the school, which can positively promote behaviour, school achievement, and the social and emotional development of students. Proximity, accessibility and the serene nature of the environment of a school can encourage learning. Kenzo (2014) asserts that some researchers have studied the mechanisms by which school accessibility could affect test scores and found a positive correlation. UNESCO (2001) posits that the Nigerian child is a product of several environments, all of which contribute to his development and learning process. A child comes from a home, attends a school, lives in a community and belongs to a larger society (such as a town, state, or a country).

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.

Academic performance refers to the rate at which educational objectives are being achieved by those within the school system (Owan, 2012). This implies that students' academic performance measures the extent to which students' are achieving desired educational goals and objectives. According to Erum and Zahoor (2011), students' academic performance and graduation rates have been an area of concern, and investigation of factors relating to academic performance of secondary students has been a topic of much interest to scholars. This scenario may arise because since schools were established for the students, their performance can be used to judge the effectiveness of school system.

Poor academic performance has remained a recurring irritant in Nigeria's educational system, in spite of conscious efforts of governments at all levels to improve on the quality and content of education in the country (Egunsola, 2014). There are many factors which may affect the educational performance of learners. These can be categorized into teacher-related, school-related and home-related factors (Fajar, Hussain, Sarwar, Afzal and Gilani, 2019). There are also society-induced causations.

Poor sanitation and hygiene conditions can be injurious to infants and children, particularly of school age, and thereby hamper performance. Bouya et al., (2010), for example, explain that illness caused by poor hygiene practices of students, such as failure to wash hands before eating, not washing oneself properly after using the toilet and not washing one's undies regularly may negatively affect students' cognition and performance at school.

Abdulmalik (2013) contends that inadequate attention to children's academic work by parents and guardians as well as having the dual activity of teaching and learning in poor school environments contribute to poor academic performance of students. Different scholars have investigated the sources of poor academic performance among students across different jurisdictions, but not many of the studies have been conducted in sub-Saharan African countries. It therefore remains unclear how the findings of these studies apply to sub-Saharan Africa.

Using a sample of senior public secondary schools in Anambra State, this study investigates how the academic performance of students is determined by such environmental factors as family background, proximity to school, quality of teachers, and school infrastructure.

Research Objectives

The study seeks to ascertain the validity of the following research objectives:

1. Educational accomplishment of students in government-owned senior secondary schools is affected by the social and economic status of their parents (family background).
2. Proximity of students of government-owned senior secondary schools to their school determines how they perform in their academics.
3. Deployment of professionally qualified teachers to government-owned senior secondary schools promotes students' educational achievement.
4. Academic performance of senior secondary students in government schools is strongly linked to quality and adequacy of school structure.

Research Hypotheses

The following hypotheses stated in the null form, are formulated to guide the study.

1. H_0: $\mu_1 - \mu_2 = 0$: There is no significant difference between the mean performance of students from high socio-economic background and those

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.* © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

from parents with relatively lower socio-economic status.

2. H_0: $\mu_1 - \mu_2 = 0$: There is no significant difference between the mean performance of students who live close to their schools and those that live far from school.

3. H_0: $\mu_1 - \mu_2 = 0$: The mean academic performance of students taught by professionally-qualified teachers does not differ significantly from that of students taught by less qualified teachers.

4. H_0: $\mu_1 - \mu_2 = 0$: There is no significant difference between the mean performance of students from well-equipped government-owned senior secondary and the mean performance of students from schools with inadequate equipment and infrastructure.

REVIEW OF RELATED LITERATURE

Over the years scholars have studied the nexus of academic performance and the environment across many jurisdictions and have produced mixed results. Different dimensions of the environment and analytical methods have been analyzed vis-à-vis academic performance of students with mixed outcomes. For instance, the work of Imeokparia (2018) examined how environmental factors correlate with academic performance in Edo State using a sample of 2,374 junior secondary (JS) Business Studies students and 65 teachers of the subject. The study did not show that location and school-type correlate strongly with academic performance. However, there is evidence of substantial connection between educational facilities and the performance of students. Gilavand (2016) investigated how the learning environment influences learning outcomes of students by analyzing data gathered from literature survey on the subject. Based on critical

analysis of thirty-nine (39) published articles, selected on the advice of medical education experts, the result indicates that noise retards academic achievement while appropriate painting, lighting of educational environment, and open spaces in schools enhance learning outcomes.

Obeta (2014) examined how selected home environmental factors affect the educational performance of secondary school students in Abia Sate, Nigeria by conducting a survey of 200 respondents selected from a random sample of students at the junior and senior secondary levels, and their parents. The study reveals that lack of adequate educational materials at home and poor attitude of parents to the educational activities of their children, in addition to social and economic status of parents substantially affect the academic performance of students. The work of Joseph, Yeboah-Appiagyei and Fentim (2014) focused on identifying environmental factors that affect the performance of senior high financial accounting students in the Tamale metropolis of Northern Ghana. Based on data obtained from 260 students and 29 teachers drawn from 7 senior high schools, the authors observe that instructional materials and provision of residential facilities lead to improvement in students' academic performance.

Nwobodo and Agusiobo (2017) investigated the connection between academic adjustment of secondary school students in Enugu State and the environment of the school. Data obtained from the survey were analyzed using the method of means, standard deviation and Pearson Product Moment Correlation. The result shows strong association between the environment of the school and students' educational adjustment. It further indicates that location of the school is closely related to students' academic adjustment. However, it did not show

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe. © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

significant relationship between gender and academic adjustment.

Kalagbor (2016) examined factors that enhance students' academic performance in public and private secondary schools in Rivers State-Nigeria. The data was analyzed using simple descriptive analytical methods: frequency counts, percentage and mean. The result indicates that academic performance in private secondary schools is better enhanced by most of the items analyzed in the study than in public secondary schools. These items include home background, teacher-student relationship, teacher's supervision, effective use of teaching time, and teacher-student ratio. However, academic performance in public secondary schools is better enhanced by the quality of teachers than in the private secondary schools.

Fajar, Hussain, Sarwar, Afzal and Gilani (2019) conducted a cross-sectional study of undergraduate nursing students to identify factors that determine their academic performance using convenient sampling technique. The authors observe negative correlation between gender of participants and academic performance. They also discover that teacher, school, home and student-related factors also affect students' academic performance.

Igbinoba and Aigbedion (2015) analyzed the impact of classroom management techniques on students' academic performance in selected junior secondary schools in Abuja Municipal Area Council. Mean and percentages were used to analyze data obtained from a sample of 247 respondents. The finding shows significant positive correlation between classroom management techniques and academic performance in junior secondary schools in the Municipal Area Council.

Using a sample of 350 students selected through multi-stage sampling technique, Igbo and Ihejiene (2014)

examined how parenting styles relate to students' abnormal behaviour and educational achievement based on a sample of students from selected secondary schools in Garoua, Northern Cameroun. The outcome of the analysis of variance (ANOVA) test indicates that styles adopted by parents in the upbringing of children determine their behaviour and academic performance.

Farooq, Chaudhry, Shafiq and Berhanu (2011) investigated factors that affect academic performance using a sample of secondary school students from a metropolitan city of Pakistan. Standard t-test and ANOVA were used to analyze data obtained from the survey. The result indicates that the social and economic standing of parents and their educational attainment have significant effect on students' general educational achievement in addition to their performance in subjects like Mathematics and English. This implies that students from high and average socio-economic families perform better than those from lower class. They also observe that girls perform better than the male students.

Using descriptive and inferential statistics, Olufemi, Adediran and Oyediran (2018) examined the factors affecting students' academic performance in Colleges of Education in southwest, Nigeria. The result indicates that student-related factors, parental background, school factors, and teachers' factors greatly affect academic performance of students. Umar and Samuel (2019) examined how school facilities and school-type impact students' academic performance using a sample of science students from senior secondary schools in Nasarawa State, Nigeria and discovered that school facilities significantly impact science students' academic performance in urban and rural schools from both the private and public school sector.

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.*

Ogoro, Nkwocha and Ogoro (2018) examined the correlation between proximity of students' homes to school and academic performance using a sample of students from selected schools in Obio/Akpor LGA of Rivers State. The finding indicates that pupils' distance to school does not correlate with their academic performance. However, they observe that lateness to school, family background, and family size could substantially determine their academic performance.

Ewetan and Ewetan (2015) investigated the effect of teachers' experience on students' academic performance in Mathematics and English Language based on a sample of public secondary school students in Ado-Odo/Ota and Ifo Local Government Areas of Ogun State. They observe that teachers' teaching experience significantly determine students' performance in Mathematics and English Language. The study specifically shows that schools with more teachers having above 10 years of experience in teaching achieved better results than schools with more teachers having 10 years and less of teaching experience. The authors used respondents' perception of students' performance in the Senior Secondary School Certificate examinations as proxy for academic performance.

Usaini, Abubakar and Bichi (2015) investigated how school environment influence the academic performance of secondary school students in Kuala Terengganu, Malaysia. Based on regression test of observations generated from respondents, the authors show that students with adequate facilities, good teachers and favourable environment perform better than their counterparts with inadequate learning facilities, untrained teachers and unfavorable learning environments.

Using proportionate random sampling method, Barkindo, Shehu and Aliyu (2018) conducted a study on how socio-economic background of parents and their involvement in their children's education correlate with children's performance at school based on a sample of 216 final year students of business education in Adamawa State, Nigeria. The research reveals that while social and economic standing of parents correlates strongly with students' educational achievement, parental involvement in children's educational activities did not substantially correlate with the academic performance of their children.

The above review shows strong correlation between environmental constituents and the educational achievement of students in secondary schools across different jurisdictions, including Nigeria. However, there is no evidence of such study in Anambra State in general and the selected local government areas in particular. In addition, available studies have not considered the nexus between closeness of students to school and their performance in school. This research takes account of the identified gaps.

METHODOLOGY

The survey design was used in this research because it offers researchers considerable latitude to administer research instrument (questionnaire) to a sample or to the entire population of people, and based on data generated describe the attitudes, opinions, behaviors, or characteristics of the population. The study covers six senior secondary schools across the three local government areas in Anambra State. The state has 21 local government areas.

Multi-stage sampling technique was used in the sample selection, first to choose two senior secondary schools from each of the local governments. A second sample made up of 522 students and 102

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.* © 2020. *Faculty of Tech. Education, ATBU Bauchi. All rights reserved*

academic instructors was further drawn on proportionate basis from the previously selected sample of six senior secondary schools. Sample size for this study was determined to be six hundred and twenty-four (624) based on the purpose of the research and personal judgment of the researcher. The choice of these criteria is premised on the need to produce a sample that can be logically assumed to be representative of the population.

This study focused on environmental factors affecting students' academic performance in secondary schools in Anambra State. It is limited to students and teachers in public secondary schools in the area. Elements of investigation include environmental factors such as family background/status, school proximity, teachers' professionalism/quality and school structure. Academic performance is proxied as the performance of students in the Senior Secondary School Certificate Examinations (SSCE) organizes by the West African Examination Council (WAEC).

The questionnaire developed by the researcher was first subjected to content validation. The initial questionnaire drafted was given to two experts in the area of Educational Foundation to validate. For this purpose, the researcher presented the draft questionnaire to be examined for clarity of language, appropriateness of and or suitability of the items, after which

corrections and suggestions made were used to improve the quality of the instrument.

It is only when an instrument is valid and reliable that meaningful generalization could be made from research findings. After establishing the validity, the instrument was subjected test re-test using 50 copies which were served to teachers and students in the selected schools. Their responses were subjected to Spearman's Rank Correlation test. A correlation coefficient estimate of 0.87 was obtained, indicating that the items are reliable as about 87.0 percent of the variances come from true estimation while the remaining 13.0 percent are due to error variance.

The method of analysis is largely descriptive and evaluation of the research items was based on the method of means. By comparing the mean of data generated from the respondents with the likert mean of 3.00, research items that return of 3.00 and above qualify for acceptance, otherwise they are rejected. In addition, the two-tailed test was conducted to determine if there is evidence of significant difference between the sample of respondents that agree/strongly agree to the research items and those that disagree/strongly disagree. The t-test statistic (two-tailed) was used to evaluate the research hypothesis at 5 percent level of significance and n-1 degrees of freedom.

Table 1: Distribution and Return Rate of the Research Instrument

Questionnaire	Number	Percentage
Distributed	624	100.0%
Returned	578	92.6%
Not Returned	46	7.4%

Source: Field Survey (2019)

From the result in table 1 above, out of 624 copies of questionnaire administered on the selected audience, 578 were correctly filled and returned for

analysis. Forty-six (46) copies were either not correctly completed or not returned and were therefore excluded from the study. The return rate of 578, representing

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe. © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

89.1% of the total questionnaire was considered adequate for statistical analysis and generalized conclusion.

Table 2: Educational accomplishment of students in government-owned senior secondary schools is affected by the social and economic status of their parents (family background).

Question Items	SA (%)	A (%)	U (%)	D (%)	SD (%)	Statistics	
						Mean	Std.
Parents on high income are able to provide learner-friendly homes and also send their children to better schools	478 (82.7%)	76 (13.2%)	16 (2.8%)	6 (1.0%)	2 (0.3%)	4.77	0.559
Students from rich families perform better in their academics than their counterparts from poor homes	109 (18.9%)	141 (24.4%)	97 (16.8%)	119 (20.6%)	112 (19.4%)	3.03	1.355
Children of rich parents have higher career aspirations than those from parents with low economic standing	468 (81.0%)	82 (14.2%)	5 (0.9%)	1 (0.2%)	2 (0.3%)	4.65	0.473
Children of parents with high educational standing perform better academically than those from low educational status	346 (59.9%)	138 (23.9%)	76 (13.2%)	10 (1.8%)	8 (1.4%)	4.39	0.854
Children of parents with high social standing perform better in school than those from low social class	104 (18.0%)	128 (22.1%)	103 (17.8%)	117 (20.2%)	126 (21.8%)	2.94	1.366
Cluster Mean	**52.1%**	**19.6%**	**10.3%**	**8.8%**	**6.8%**	**3.95**	**0.921**

Source: Field Survey, 2019

The result presented in table 2 indicates that over 70 per cent of the respondents subscribe to the opinion that family background is an important influence on students' academic performance while 15.6 per cent hold a contrary opinion. On the other hand, 10.3 per cent are undecided on the subject.

From a statistical point of view, the table shows that four family-oriented research items present mean values of 3.00 and above while one presents a lower value (2.94). It is important to mention from the observation that social standing of parents may not affect children's academic performance. Overall statistical analysis of the feedback from respondents produced a cluster mean of 3.95 which is greater than the likert mean of 3.00. This result suggests that family background affects the academic performance of students in senior public secondary schools in the selected areas.

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe. © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

TEST OF HYPOTHESIS

Hypothesis 1 was tested to determine whether the performance of government-owned senior secondary students from high socio-economic background differ significantly from their peers whose parents are of lower socio-economic status. The hypothesis is stated in the null form as:

H_{01}: $\mu_1 - \mu_2 = 0$: There is no significant difference between the mean performance of students from high socio-economic background and those from parents with relatively lower socio-economic status.

Based on rule of thumb principle which posits that for large samples, the t-distribution approximates a normal distribution so that for t-statistic > 2.00, the null hypothesis is rejected. Since the calculated t-statistic (2.46) > 2.00, the null hypothesis is rejected, which implies that the mean performance of students from high socio-economic background differs significantly from the performance of those students with relatively lower socio-economic background.

Table 3: Proximity of students of government-owned senior secondary schools to their school determines how they perform in their academics.

Question items	SA (%)	A (%)	U (%)	D (%)	SD (%)	Statistics	
						Mean	Std.
Students who live close to school perform better than those who live far from school	218 (37.7%)	126 (21.8%)	28 (4.8%)	101 (17.5%)	105 (18.2%)	3.43	1.505
Students who live close to school know their teachers better and therefore are favoured during exams	307 (53.1%)	169 (29.2%)	27 (4.7%)	52 (9.0%)	33 (4.8%)	4.20	1.164
Students who live close to school come to school earlier than those living far from the school	452 (78.2%)	93 (16.1%)	18 (3.1%)	9 (1.6%)	6 (1.0%)	4.67	0.678
Students proximity to school amounts to less stress which in turn lead to better academic performance	382 (66.1%)	126 (21.8%)	28 (4.8%)	29 (5.0%)	13 (2.2%)	4.45	0.917
Students who live close to school are given more functions by the school authority which favours them in their academic performance	285 (49.3%)	158 (27.3%)	49 (8.5%)	41 (7.1%)	45 (7.8%)	4.03	1.203
Cluster Mean	**56.9%**	**23.2%**	**5.2%**	**8.0%**	**6.8%**	**4.16**	**1.093**

Source: Field Survey, 2019

Table 3, captures the feedback from respondents in relation to whether students who live close to their school perform better than those that live far away

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.* © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

from school. The responses suggest a near total agreement that proximity to school determines academic performance. About 80 per cent of the respondents agree that closeness to the school affect students' performance. While 8 per cent do not have definite position on the issue, about 15 per cent did not agree that proximity to school affects academic performance.

In terms of statistics, the table shows that the mean response of the target audience to all the research statements or items is well above the likert mean value (3.00), an indication that all the items in the cluster agree to a relationship between proximity to school and academic performance. The cluster mean of 4.16 further validates the relationship.

Hypothesis 2 was tested to determine whether the performance of government-owned senior secondary students who live close to their schools differ significantly from their peers who live far away from their schools. The hypothesis is stated in the null form as:

H_{02}: $\mu_1 - \mu_2 = 0$: There is no significant difference between the mean performance of students who live close to their schools and those that live far from school.

Based on rule of thumb principle which posits that for large samples, the t-distribution approximates a normal distribution so that for t-statistic > 2.00, the null hypothesis is rejected. Since the calculated t-statistic (5.66) > 2.00, the null hypothesis is rejected, which implies that the mean performance of students who live close to their schools differ significantly from their peers who live far away from their schools.

Table 4: Deployment of professionally qualified teachers to government-owned senior secondary schools promotes students' educational achievement.

Question items	SA	A	U	D	SD	Statistics	
						Mean	Std.
Teachers who teach what they studied can teach the subjects in ways that students understand better.	486 (84.1%)	74 (12.8%)	8 (1.4%)	4 (0.7%)	6 (1.0%)	4.78	0.581
Teachers are happy when they teach subjects from the area of their specialization, and this promotes positive interaction with their students.	478 (82.7%)	86 (14.9%)	6 (1.0%)	3 (0.5%)	5 (0.9%)	4.78	0.551
Professionally-experienced teachers use both theory and practical teaching methods, and students learn better under them	354 (61.2%)	172 (29.8%)	24 (4.2%)	12 (2.1%)	16 (2.8%)	4.45	0.855
Teachers' professionalism has significant positive impact on the educational achievement of students at the secondary level.	372 (64.4%)	168 (29.1%)	18 (3.1%)	11 (1.9%)	9 (1.6%)	4.51	0.744
Professionally trained	428	122	14	6	8	4.68	0.684

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe. © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

Question items	SA	A	U	D	SD	Statistics	
						Mean	Std.
teachers teach with high level of integrity and understanding.	(74.0%)	(21.1%)	(2.4%)	(1.0%)	(1.4%)		
Cluster mean	73.3	21.5	2.4	1.2	1.5	4.64	0.683

Source: Field Survey, 2019

Table 4, presents overwhelming support that professionally qualified teachers contribute significantly to enhanced academic achievement of students in public secondary schools. This is attested to by over 94 per cent of respondents covered by the survey. Only about 5 per cent of the respondents either could not form an opinion or out-rightly disagreed with the statement. Quality of teachers in schools can derive from their professional status.

The mean value of all the items in the cluster of questions relating professional qualification to students' academic qualification exceed the Likert mean (3.00), which implies that, individually, they support that employment of professionally-qualified teachers can lead to improvement in the educational achievement of students. With a cluster mean of 4.64, the statement that students' educational achievement in senior government-owned schools can be enhanced through engagement of professionally qualified or good quality teachers is strongly validated.

Hypothesis 3 was tested to determine whether the performance of government-owned senior secondary students who are taught by professionally-qualified teachers differ significantly from their peers who are taught by less qualified teachers.

The hypothesis is stated in the null form as: H_{03}: μ_1 - μ_2 = 0: The mean academic performance of students taught by professionally-qualified teachers does not differ significantly from that of students taught by less qualified teachers.

Based on rule of thumb principle which posits that for large samples, the t-distribution approximates a normal distribution so that for t-statistic > 2.00, the null hypothesis is rejected. Since the calculated t-statistic (50.32) > 2.00, the null hypothesis is rejected, which implies that mean academic performance of students taught by professionally-qualified teachers differ significantly from that of students taught by less qualified teachers.

Table 5: Academic performance of senior secondary students in government schools is strongly linked to quality and adequacy of school structure

Question items	SA	A	U	D	SD	Statistics	
						Mean	Std.
Procurement of educational facilities and degree of deployment has productive influence on students' educational accomplishment.	375 (64.9%)	108 (18.7%)	52 (9.0%)	20 (3.5%)	23 (4.0%)	4.37	1.009
Maintenance of healthy	397	132	27	13	9	4.55	0.784

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe. © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

Question items	SA	A	U	D	SD	Statistics	
						Mean	Std.
school atmosphere can promote academic performance.	(68.7%)	(22.8%)	(4.7%)	(2.3%)	(1.6%)		
Prompt compliance to school teachers' welfare needs, including payment of salaries can enhance students' academic performance.	348 (60.2%)	164 (28.4%)	21 (3.6%)	19 (3.3%)	26 (4.5%)	4.37	0.983
Maintenance of approved teacher-student ratio leads to improvement in academic performance of students.	362 (62.6%)	177 (30.6%)	12 (2.1%)	21 (3.6%)	6 (1.0%)	4.50	0.751
Provision of recreational facilities in schools can influence students' academic performance.	398 (68.9%)	132 (22.8%)	24 (4.7%)	11 (2.9%)	13 (2.3%)	4.54	0.815
Cluster mean	65.1	24.7	4.8	3.1	2.7	4.47	0.868

Source: Field Survey, 2019

Table 5 shows the opinion of respondents in respect of the relationship between educational facilities and the educational achievement of government-owned senior secondary schools in Anambra State. The collated data shows over 89 per cent of the respondents agree that provision of school facilities can enhance the performance of students in these schools. On the other hand, while about 5 percent are undecided, the rest did not agree that school structure can influence academic performance.

The responses to the individual items in the cluster stands above the likert mean which indicates that they are in agreement that academic performance of students in public secondary schools is strongly linked to quality and adequacy of school structures. The cluster mean of 4.47 provides further validation to the above statement.

Hypothesis 4 was tested to determine whether students from well-equipped government-owned senior secondary perform better than students whose schools lack adequate equipment and infrastructure. The hypothesis is stated in the null form as:

H_{04}: μ_1 - μ_2 = 0: There is no significant difference between the mean performance of students from well-equipped government-owned senior secondary and the mean performance of students from schools with inadequate equipment and infrastructure.

Based on rule of thumb principle which posits that for large samples, the t-distribution approximates a normal distribution so that for t-statistic > 2.00, the null hypothesis is rejected. Since the calculated t-statistic (32.84) > 2.00, the null hypothesis is rejected, which implies evidence of significant difference between the mean performance of students from well-equipped government-owned senior secondary and the mean performance of students from schools with inadequate equipment and infrastructure.

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.* © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

DISCUSSION OF RESULTS

This research examines how environmental factors affect the academic performance of students in public senior secondary schools in Anambra State using six secondary schools across the three senatorial areas of the state. Following the analysis of data generated from the respondents, it was observed that family background, in terms of social and economic standing of parents, determines the educational achievement of students. The result shows that the average academic performance of children of high profile parents differs significantly from that of their counterparts from poor background. This outcome aligns with the findings in Obeta (2014), Farooq, et al (2011), Ogoro, et al (2018), Igbo and Ihejiene, (2014), Barkindo, et al (2018), Olufemi, et al (2018) and Fajar, et al (2019).

The study also validates the statement that proximity of students to school contributes to their academic achievement. This implies that the performance of students living close to the school premises show significant difference from those that travel far distances to school. Though not many studies have been conducted in this area, the work of Ogoro, et al (2018) did not establish a significant connection between closeness to school and academic performance. However, the work of Joseph et al (2014), which reports that provision of residential facilities in schools leads to improvement in students' academic performance, suggests that proximity to school can influence the performance of students in their academics.

Further evidence from the study indicates that employment of professionally-qualified teachers impacts the performance of students in public secondary schools in Anambra State. Experienced and well-trained teachers have the advantage of breadth and depth on the subjects they teach as well as the appropriate methods to use so as to achieve learning objectives. This therefore explains the rationale for the observation that students taught by qualified and experienced teachers perform differently from those taught by less qualified and relatively inexperienced instructors. This result aligns with the works of Kalagbor (2016), Ewetan and Ewetan (2018), Usaini, et al (2015), and Fajar, et al (2019).

Finally, from our analysis, we observe that provision of the required quantity and quality of school facilities influences academic performance. This follows from the result that the performance of students from schools that have adequate, functional and good quality structures shows significant difference from the performance of their counterparts from schools where these facilities are in short supply. This observation corroborates the research findings of Joseph, et al (2014), Imeokparia, (2018), Usaini, et al (2015), Olufemi, et al (2018), Umar and Samuel (2019) and Fajar, et al (2019).

SUMMARY OF FINDINGS

Analysis of data obtained from respondents in respect of their opinions on how environmental factors affect academic performance in selected public senior secondary schools in Anambra State, Nigeria reveals that family socio-economic status, closeness of students to school, employment of professionally-qualified teachers, and provision of adequate and good quality school facilities contribute to students' academic performance.

CONCLUSION

Following from the results outlined above, this study concludes that academic performance of students in public senior secondary schools is affected by environmental factors like family social and economic status, distance students have to travel to and from school, professional

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.*

status of teachers, and adequacy of educational facilities for teaching and learning.

RECOMMENDATIONS

We therefore recommend that education managers, particularly in the public education sector, through the inspectorate unit of the Ministry of Education should ensure that learning-supportive school environments are in place. For instance, schools should be located in low noise areas and there should be adequate open spaces for students to operate, classroom temperature should not be disruptive to teaching and learning, paintings should be moderate, and scent from deodorants and or cleaning liquids should not be offensive.

More schools should be established, particularly in the rural areas, to bring them closer to the people, and provision of residential facilities in schools should be encouraged to allow students more time to concentrate on their studies. Students that reside in the school, for instance, have more time to plan their academic programme and stand a better chance of academic success. Also, teacher education should be emphasized. Teachers should be trained and re-trained to enhance the capacity of teachers to impart knowledge on their students. The on-going effort to professionalize and re-certify those qualified to teach in Nigerian schools is quite commendable and should be sustained.

Finally, there should be adequate infrastructural support to promote learning in public schools. Though ambience is relevant to academic accomplishment, teachers and students need facilities to achieve learning objectives. It is established that students easily remember what they see, so visual and practice should complement theory. To achieve this, instructional materials, adequacy of classrooms, information and communication and technology should be provided in the public school system.

REFERENCES

Abdulmalik, A. H. (2013). *Issues militating against Business Education Students 'Performances in Colleges of Education*. Unpublished manuscript.

Adediran, A. A., Ojomo, B. U. & Adayanju, E. O. (2015). Fostering national integration and development in Nigeria through inclusive education in O. A. Adebimpe and Theo Ajobiewe (eds.) contemporary issues in the management and administration of tertiary institution in Nigeria. Abeokuta. Pee & Gee Press and Publishers.

Barkindo, H.M., Shehu, I.Y. & Aliyu, M.M. (2018), Relationship between parents' socio-economic background, parental involvement and students' academic performance in higher institutions of learning in Adamawa State, Nigeria, *Proceedings of ICGET 2018*, 25-29

Bouya, A., Nederveen, L. & Wisjnu, W. (2010). Hygiene Awareness: Improving School attendance and participation in Indonesia, Published by enabling Education net.

Egunsola, A. O. E. (2014). Influence of home environment on academic performance of secondary school students in agricultural science in Adamawa State Nigeria. *Journal of Research & Method in Education 4 (4),* 46-53.

Ewetan, T. O. & Ewetan, O. O. (2015). Teachers' Teaching Experience and Academic Performance in Mathematics and English Language

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.* © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

in Public Secondary Schools in Ogun State, Nigeria. *International Journal of Humanities Social Sciences and Education (IJHSSE),* 2(2), 123-134.

Fajar, S., Hussain, M., Sarwar, H., Afzal, M. & Gilani, S. A. (2019). Factors affecting academic performance of undergraduate nursing students. *International Journal of Social Sciences and Management,* 6(1), 7-16.

Farooq, M. S., Chaudhry, A. H., Shafiq, M. & Berhanu, G. (2011). Factors affecting students' quality of academic performance: A case of secondary school level. *Journal of Quality and Technology Management*, VII (II), 01-14.

George, T. O., Okoye, L. U., Efobi, U., & Modebe, N. J. (2017). Financial decision and poverty: Examining the financial behaviour of the extreme poor in Nigeria, Proceedings of the 29th International Business Information Management (IBIMA) Conference, Vienna-Austria, May 3- 4: 3106-3116

Gilavand, A. (2016), Investigating the impact of environmental factors on learning and academic achievement of elementary students: Review, *International Journal of Medical Research and Health Sciences,* 5(7S), 360-369

Igbinoba, O. K. & Aigbedion, I. M. (2015). The impact of classroom management on students' academic performance in selected junior secondary schools in Municipal area council, Abuja. *International Journal of Education and Research, 3* (9), 141-151.

Igbo, J. N. & Ihejiene, M. A. (2014), Influence of parenting styles on deviant behaviors and academic achievement of secondary school students in Garoua, Northern Cameroun, *International Journal of Educational Science and Research,* 4(5), 19-34

Imeokparia, P. O. (2018), Influence of environmental factors on academic performance of business students in upper basic level in Edo State, *Journal of Education and Practice,* 9(24), 22-28

Joseph, O., Yeboah- Appiagyei, K & Fentim, D. B. (2014), The school environmental factors that affect the academic performance of senior high financial accounting students in Tamale Metropolis in the Northern region of Ghana, *Advances in Social Sciences Research Journal,* 1(7), 133-144

Kalagbor, L. D. (2016). An analysis of factors influencing students' academic performance in public and private secondary schools in Rivers State-Nigeria. *Journal of Education and Practice*, 7(28), 96-101.

Kenzo, A. (2014). The Impact of Better School Accessibility on Student Outcomes. *Special Economic Research Centers Discussion Paper* 156.

Li, Y., Lerner, J., & Lerner, R. (2010). Personal and ecological assets and academic competence in early adolescence: The mediating role of school engagement. *Journal of Youth Adolescence,* 3(9), 801-815.

Machebe, C. H. & Ifelunmi, C. O. (2014). Influence of parental socio-economic status on academic achievement of students in selected schools in Nigeria: A case study of Enugu State. *Journal of*

Corresponding author: Okoye, H. C. ✉ *hilgozokoye@gmail.com* ✉ *Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.* © 2020. Faculty of Tech. Education, ATBU Bauchi. All rights reserved

Education and Practice, 5(2), 105-110.

Mgbodile, T. O. (2004). *Fundamentals in Educational Administration and Planning*. Magnet Business Enterprise, Enugu.

Nanalee C. (1997). *Young living* (seventh edition). McGraw Hill. New York

Nwobodo, D. & Agusiobo, H. C. (2017). Relationship between school climates and academic adjustment of students in secondary schools in Enugu State. *International Journal of Education (IJOE),* 2(1), 1-16.

Obeta, A.O. (2014), Home environmental factors affecting students' academic performance in Abia State, *Jelgava,* 7-8.02, 141-149

Ogoro, M. A., Nkwocha, B. & Ogoro, M. (2018). Geospatial proximity of students' homes to school in relation to academic performance. *International Journal of Social Science and Humanities Research*, 6(3), 651-661.

Okoye, L. U., Omankhanlen, A.E., Okoye, H.C., Urhie, E. Okoh, J.I. & Ezeji, F.N. (2019), Financial literacy as an instrument of poverty alleviation, Proceedings of the 34th International Business Information Management (IBIMA) Conference, ISBN: 978-0-9998551-3-3 Madrid-Spain, November 13-14

Olufemi, O. T., Adediran, A. A. & Oyediran, W. O. (2018). Factors affecting students' academic performance in Colleges of Education in southwest, Nigeria. *British Journal of Education,* 6(10), 43-56.

Umar, U. N. & Samuel, R. I. (2019). Influence of school facilities and school types on senior secondary school science students' academic performance in Nasarawa State, Nigeria. *Case Studies Journal,* 8(1), 84-88.

UNESCO, (2001). Global challenges for primary education. *An International Workshop*. Dakar, Senegal July 9-13.

Wagner, I. (2017), Environmental Factors that Influence Behavior and Academic Achievement, Retrieved from, https://academiafurniture.com/insights/environmental-factors-that-influence-behavior-and-academic-achievement

Corresponding author: Okoye, H. C. ✉ hilgozokoye@gmail.com ✉ Department of Educational Management and Planning, Abia State University, Uturu-Okigwe.