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LEARNING ENVIRONMENT AS CORRELATES OF ACADEMIC ACHIEVEMENTS OF SENIOR SECONDARY SCHOOL STUDENTS IN NORTH CENTRAL, NIGERIA

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ABSTRACT

The purpose of this research was to examine the relationship between learning environment and academic achievement of senior secondary school students in North Central, Nigeria. The research design adopted for the study was correlation survey; with the total population of 574,783 students comprising of 313,938 males and 260, 844 were females. The sample size for the study was 398 students drawn using Glenn (2012) sample scale. The main instrument used in data collection was a self-designed questionnaire following the Likert scale, validated by experts in the area. The reliability coefficient of 0.83 was established. Descriptive and inferential statistics were used in the data analysis. The mean rating was 2.50. While the decision for comparison for each hypothesis was based on 0.05 level of significance. The findings showed that the academic achievements of the students were within average. There were no significant influence between learning environment and academic achievement of the students. It is therefore recommended that stakeholders should prioritize learning environment thereby improving learning situations and achievement of students. Furthermore, education providers should always organize seminars and refresher courses to improve the teachers for better service delivery.

KEY WORDS

Learning Environment, Academic Achievement, Secondary School Students.



Introduction

Learning is an important feature in our humanity as it is through learning that knowledge is acquired. By natural endowment, the human being has a more advanced nervous system and thus a higher capacity to learn. It is through learning therefore that man is better equipped for adaptive behavior and survival within the environment.

Nnachi (2007) stated that the human environment constitutes environmental settings like the home environment, the psychological environment, the political environment, the technological environment, the social environment, the cultural environment, the linguistic environment and the material environment. Okoro (2014) further stated that environment could be described as a system within which living organisms interact with the physical elements, while educational environment is a place where the learners learn to interact with learning facilities in order to be socialized and face the challenges in the society. Basically, environment connotes the natural habitat of a person and may be adjudged as a major determinant of the behavioural pattern (learning) in which the person exhibit. Learning environment is a platform where learners engage and interact to learn new skills. This study shall explore the home environment, the psychological environment, the technological environment and the school environment as subsets of the learning environment.

The home environment is the immediate environment of the individual made of the parents, siblings, close relatives and neighbours. As the first point of environmental influence in behavioural formation, the home is strategic. Nnachi (2007) argued that if the home is chaotic, unsuitable, uncomfortable and unpeaceful, learning is negatively affected. However, if socioeconomic condition, family condition and parent-child relationship are good and high, learning is facilitated. The home environment plays a major role in determining the child personality and also their achievement, (Jayanthi and Srinivasan 2015).

Nnachi (2007) further stated that the psychological environment refers to the emotional climate within which the individual lives and engages in learning. It deals with how people interact and engage their surroundings, (Spenser and Gee 2009). Where a learning environment is laden with rancour, hate, hostility or insecurity, learning maybe negatively affected. This is in contrast with environment that is filled with security, happiness, joy and confidence which is likely to facilitate learning.

The technological environment describes the atmosphere of learning where mass media, radio, television, machines, complex buildings, computer systems are utilized to enhance learning. Nnachi (2007) argued that the technological equipment or facilities around the individual significantly determine how the person learns. For instance, a computer is grossly helpful in providing access to more reference materials.

In a school, developing an engaging and positive learning environment for learners, especially in a particular course is one of the most creative aspects of teaching. The school is the place where learners gather for the teachers to teach. Nnachi (2007) stated that the school is a very significant aspect of the human learning environment as it prepares and mould the individual for a more efficient role in the society. The school is a place where formal learning takes place with an organized curriculum. The school environment consists of the teacher, the learner and other individuals involved in teaching-learning process. Accordingly emphasizing the role of learning environment, Gang (2018) had developed several factors that make an effective learning environment, including the establishment of a supportive learning culture, addressing the needs of the learners, keeping learning environment positive through praises and appreciation, and providing feedback to the learners. This in addition to celebrating successes of learners, ensuring both physical and mental safety of learners and the use of interactive games and activities.

In a study on the influence of learning environment on student's academic achievement in mathematics, Shamaki (2015) discovered that paintings and lighting of the classroom has a significant effect on students learning. The research further indicates that ventilation is related to student's achievement, just like classroom sitting arrangement. Other significant factors include classroom chalkboard, with a significant difference in the mean responses of the experimental and ...groups. These findings are consistent with earlier findings by Gidado (2020). In his findings on environmental factors and academic achievement of secondary school students, he concluded that school environment including furnishing, provision of teaching and learning materials are significantly related to student's academic performance in Bauchi State Secondary Schools.

Also, in a study conducted by Oluwatelure (2010) he found out that there was a significant correlation between student's scientific literacy levels and the corresponding environment where learning took place. Furthermore, in hi study of the effect of learning environment on academic performance, Dhanapala (2021) found out those science students' perspectives about facilities of multimedia and sound systems has higher satisfaction levels with a mean value of 4.210 as against the eman value of 3.194 in respect of the non-science-based faculties. As for the provision of internet facility, the mean score was 3.660 and 3.194 for science and non-science students respectively. The research findings generally show that science base students tend to have higher satisfaction levels than their non science counter parts. This may likely be due to the facilities interrogated, which appear to be science based in nature. The study also found to be consistent with an earlier finding by Balog (2018), whose research emphasized on the significance of teaching materials, technical tools, learning resources and physical learning environment.

In another research, Usman and Madudili (2019) evaluated the effects of learning environment on student's academic performance. Their findings revealed that adequately furnished classroom buildings have significant effect on student's performance. They also discovered that schools with good teachers, adequate facilities and favourable learning environment tend to produce better students. This is in addition to adequate space, lightings and colorations. Similar conclusion was reached by Ezike (2018) in his research on classroom environment and academic interests as correlates of achievement in secondary schools in Ibadan, Nigeria. Similarly, Gilavand (2015) in his investigation of the impact of environmental factors on learning and academic achievement of elementary students discovered that students achievements is significantly related with school ideal environment that is comfortable for teaching and learning. It is needless to say that when educators foster positive learning culture, learners are more likely to have the higher motivation that leads to better and more promising learning outcome. The provision of the right type of environment, conducive for learning cannot be ignored. Therefore, provision of such environment is seen by the researchers as a major requirement in aiding students' academic achievements. The current situation as observed by the researchers seems to portray lack of infrastructural facilities, standard laboratory, potable water, electricity supply and a relatively overcrowded classroom. This was the basis against which the research is conducted in order to determine the likely effect if these factors on general students' academic achievements.

Statement of the Problem

The condition of the learning environment remained a major concern to educators in North Central, Nigeria. In Nigeria generally, there were much to be desired with respect to learning environment be it the home environment, the psychological environment, the technological environment and the school environment as subsets of the learning environment. Despite several research findings on how relevant the learning environment is in creating positive teaching and learning situations, it was

unfortunate that many schools in the North Central, Nigeria, from the researcher's observation, continued to lag behind in terms of creating conducive learning environment for students. From dysfunctional homes where education was treated with laxity to inadequate or unavailable teaching-assisted technologies and unconducive school environments, the learners were challenged on every side.

This might have constituted significant challenge in the effort of the Nigerian child from the North Central region to learn and perform better academically. It is in view of the above observations that the researcher considered it curious to find out if, applying the appropriate learning styles and learning environment, could lead to remarkable improvement in the academic achievement of the students. Hence, the decision to conduct this research to investigate the effects of learning environment on the academic achievement of students in senior secondary school in North Central, Nigeria.

In this study, answers to the following research questions were sought

- i. How is the home environment of senior secondary school students in North Central, Nigeria?
- ii. How is the psychological environment of senior secondary school students in North Central, Nigeria?
- iii. What is the nature of the school environments of senior secondary school students in North Central, Nigeria?
- iv. What technological environment is available to senior secondary school students in North Central, Nigeria?
- v. What is the academic achievement of senior secondary students in North Central, Nigeria?
- vi. What is the influence of the learning environment on academic achievement of senior secondary students in North Central, Nigeria?

The sixth research question was translated to null hypothesis thus: there is no significant relationship between learning styles and academic achievement of senior secondary school students in North Central, Nigeria.

Methodology

Research Design

This study adopted a correlation survey design. The process of survey according to Kabacoff & Stoffey (2010), goes beyond mere collection and tabulation of factual data but involves elements of comparison and relationships of one kind or another, A survey is considered to be brief interviews and discussions with individuals about a specific topic using questionnaires, interview and surveys (quick interviews with the surveyor asking only a few questions).

Survey were being used in this study to collect information on relationship of learning environment and academic achievement of senior secondary school students in North central geopolitical zone of Nigeria. The researcher analyzed the collected information and drew conclusions on the work. However, the method was considered appropriate for this study because it made the simultaneous measurement of the variables and their relationship feasible.

Population of the Study

The population of this study is 574,782 this comprises of 313,938 male students and 260, 844 females' students in both public and private senior schools.

Sample and Sampling Techniques

The sample size for this study was 398 students from the senior secondary schools picked using the table of sample sizes as postulated by Glenn (2012).

Instrumentation

The instrument for data collection is Learning Environment Questionnaire (LEQ). This is a 51-item researcher-designed instrument used to assess the students' learning environment. The LEQ was made up of five parts. Part one was structured to collect demographic data of respondents while parts 2-5 were structured to elicit information from respondents with respect to the learning environment. The questionnaire was validated by a team of experts in Measurement and Evaluation in the Faculty of Education, University of Abuja to ensure face and content validity.

The instrument was tested for reliability using the test-retest method. A total of 25 students were used for the reliability test comprising 15 males and 10 females. The learning styles questionnaire was administered to the students within the range of two weeks interval between the first and second test. The pearsons product moment correlation coefficient was used to calculate the reliability of the instrument. A value of .83 was obtained which indicates that the instrument is highly reliable for use in the study.

The academic achievement test on English Language and Mathematics were extracted from the Basic Education Certificate Examination questions (2021) which were regarded as standardized tests and could be adjudged valid as far as content, coverage and syllabus were concerned.

Results

Research Question One: How is the home environment of senior secondary school students in North Central, Nigeria?

Table1: Home environment of senior secondary school students in North Central, Nigeria
N=398

	Home Environment	Mean	Std. Dev	Decision
1	My parents read educational materials to me	2.44	.49	Disagree
2	Having parents with high education level always spurs me to study hard	2.08	.39	Disagree
3	My parents ensuring that their children are well-fed, well-rested, happy and calm before studying	2.02	.40	Disagree
4	My parents nurture, accept and encourage me to learn always	2.35	.34	Disagree
5	Over protectiveness of my parents hurts	2.42	.45	Disagree
6	My parents have reasonable and positive expectations of my school performance	2.36	.45	Disagree
7	My parents have clearly stated their goals for my school performance	2.08	.44	Disagree
8	My parents clearly communicate with me about the value of learning	2.15	.44	Disagree
9	My parents show swift response to my needs	2.41	.47	Disagree
10	My parents tell me how confident there are in my ability to learn.	2.37	.43	Disagree

11	The high level of authoritarianism and punishment in my house is annoying	2.45	.49	Disagree
12	The way my parents express their disapproval makes one feel useless	2.35	.39	Disagree
Sectional Mean		2.37	0.42	

Table 1 shows the mean score of students on the home environment of Senior Secondary School Students in North Central, Nigeria. The sectional mean score is 2.37 with a standard deviation of 0.42, which shows that the students disagree that they have good home learning environment. Their parents do not read educational materials to them, their parents are not of high education level, which discourages the students to study hard, their parents also do not ensure that their children are well-fed, well-rested, happy and calm before studying and do not encourage their children to learn.

Research Question Two: How is the psychological environment of senior secondary school students in North Central, Nigeria?

Table2: Psychological environment of senior secondary school students in North Central, Nigeria

N=398

	Psychological Environment	Mean	Std. Dev	Decision
13.	I don't feel particularly pleased with the way things are in school	2.89	.81	Disagree
14.	My school experience has been very rewarding	2.41	.47	Disagree
15.	I have very warm feelings towards almost everyone in school	2.45	.47	Disagree
16.	I am not particularly optimistic about the future	2.66	.87	Agree
17.	Life feels good being in school	2.41	.39	Disagree
18.	I do not think that school is a good place	2.56	.88	Agree
19.	I am well satisfied about everything in my school	2.40	.41	Disagree
20.	I find beauty in school activities	2.46	.49	Disagree
21.	I often experience joy and elation about school	2.32	.92	Disagree
22.	I don't have a particular sense of meaning and purpose being in school	2.80	.93	Agree
23.	I don't have fun with other people in school	2.79	.77	Agree
24.	I don't have particularly happy memories of school	2.72	.82	Agree
25.	I am completely focused on the task at hand	2.62	.91	Agree
26.	I do school things spontaneously and automatically without having to think	2.64	.85	Disagree
27.	Very few things in school causes personal distractions	2.61	.80	Agree
28.	There is serious discomfort during learning in school	2.50	.86	Agree

29	I feel attached to my school in a positive way	2.33	.40	Disagree
30	I am so happily absorbed in what I am doing	2.43	.42	Disagree
31	My thoughts and actions flow freely when I am in school	2.40	.49	Disagree
Sectional Mean		2.43	0.46	

Table 3 shows the mean score of students on the psychological environment of Senior Secondary School Students in North Central, Nigeria. The sectional mean score is 2.63 and a standard deviation of 0.86 which shows that the students agree that they have positive psychological learning environment. Their thoughts and actions flow freely when they are in school, their school experience has been very rewarding and very few things in school cause personal distractions.

Research Question Three: What is the nature of the school environments of senior secondary school students in North Central, Nigeria?

Table3: Psychological environment of senior secondary school students in North Central, Nigeria

N=398

	School Environment	Mean	Std. Dev	Decision
32.	There are quiet, peaceful classrooms in my school	2.37	.40	Disagree
33.	The students ask the questions—good questions	2.24	.45	Disagree
34.	Questions are valued over answers	2.45	.34	Disagree
35.	Ideas come from a divergent sources, students, teachers and other resource persons	2.40	.44	Disagree
36.	A variety of learning models are used	1.47	.21	Disagree
37.	Classroom learning is connected to real community	2.00	.30	Disagree
38.	Learning is personalized by a variety of criteria such as reading level, interest and readiness-for-content	2.42	.43	Disagree
39	Assessment is persistent, authentic, transparent, and never punitive	2.00	.55	Disagree
40	Criteria for success is balanced and transparent.	2.45	.40	Disagree
41	Curiosity, persistence, flexibility, priority, creativity, collaboration, revision is encouraged	2.00	.36	Disagree
42	There are constant opportunities for practice	2.05	.24	Disagree
Sectional Mean		2.45	0.54	

Table 3 shows the mean score of students on the school environment of Senior Secondary School Students in North Central, Nigeria. The sectional mean score is 2.45 and a standard deviation of 0.54 which shows that the students agree that they do not have good school environments. There are no

quiet, peaceful classrooms in the school, varieties of learning models are used and learning is not personalized by a variety of criteria such as reading level, interest and readiness-for-content.

Research Question Four: What technological environment is available to senior secondary school students in North Central, Nigeria??

Table4: Technological environment of senior secondary school students in North Central, Nigeria

N=398

	Technological Environment	Mean	Std. Dev	Decision
43.	Interactive whiteboards help in promoting active and collaborative learning through discussions, reading, analysis, writing, and evaluation in this school	2.26	.47	Disagree
44.	Computers were introduced to this school to enhance effective learning	2.44	.53	Agree
45.	With internet virtual students easily interact with their tutors via the blackboard and through portals	2.22	.48	Agree
46.	We have simulations and educational games in the school	2.36	.40	Agree
47.	As a student, I make use of my smart phone in my studies	1.50	.30	Agree
48.	Use of tablets, has made learning fun and easy for me	1.00	.20	Disagree
49.	Being on social media has helped to make school less difficult	2.44	.95	Disagree
	Sectional Mean	2.35	0.48	

Table 4 shows the mean score of students on the technological environment of Senior Secondary School Students in North Central, Nigeria. The sectional mean score is 2.35 and a standard deviation of 0.48 which is below 2.50 mid-point in a four-point scale shows that the students disagree that their school operates in a technological environment. The students agreed that computers were not introduced to their school to enhance effective learning, with internet virtual students easily interacting with their tutors via the blackboard and not through portals. Although the students agreed to the uses of smart phone for their studies, but disagreed that being on social media has helped to make school less difficult.

Research Question Five: What is the academic achievement of senior secondary students in North Central, Nigeria?

Table 5: Academic Achievement of Senior Secondary School Students in North Central, Nigeria
N=398

	Average Score
Mathematics	45.99
English Language	43.36
Academic Performance	47.67

Table 5 shows that the students' score in Mathematics is 45.99 which mean that the students score in Mathematics is below average. The students score in English Language is 43.36, which also means that the students score in English Language is below average. The academic achievement of students is 47.67. This means that the academic of achievement students is below average.

HO₁: There is no significant relationship between learning environment and academic achievement of senior secondary school students in North Central, Nigeria.

Table 6: Model Summary for Test of Relationship among students’ Learning Environment and Academic Achievement of Senior Secondary School Students in North Central, Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.004a	.018	.008	9.52546

As shown in table 6 above, an R- value of .004 indicates relationship between learning environment and academic achievement of senior secondary school students in North Central, Nigeria.

The R Square called the coefficient of determination shows the proportion of variance in the dependent variable that can be explained by the independent variables. The R square value of .018 indicates that 1.8% of the variability of dependent variable can be explained on the basis of the independent variable among students.

Table 7: ANOVA Table for Test of Dominant of Influence Academic Achievement by Home Environment, Psychological Environment, School Environment and Technological Environment

Model	Sum of Squares	Df	Mean Square	F	Sig.	Decision
1	648.967	4	162.242	1	.034 ^b	Significant
Regression	35658.647	393	90.734	.		
Residual	36307.614	397		7		
Total				8		
				8		

a. Dependent Variable: Academic Performance

b. Predictors: (Constant), Technological Environment, Psychological Environment, Home Environment, School Environment

Table 7 shows a significant value of .034 (less than the 0.05 level of significance) shows that the independent variables significantly influence the dependent variable. The hypothesis is therefore rejected. This implies that there is statistically significant relationship between learning environment and academic achievement of senior secondary school students in North Central, Nigeria.

Table 8: Table of Coefficients for Test of Influence on Academic achievement by Home Environment, Psychological Environment, School Environment and Technological Environment

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	54.824	5.420		10.116	.000
	Home Environment	-2.485	1.401	-.096	-1.773	.040
	Psychological Environment	1.957	1.770	.061	1.106	.044
	School Environment	1.638	1.540	.061	1.064	.045
	Technological Environment	-1.741	1.253	-.075	-1.390	.047

a. Dependent Variable: Academic Performance

As shown in table 8 above, statistical significance of each independent variable. Results for Home Environment indicates the p-value of .040 which is less than .05 hence the conclusion that Home Environment significantly influence academic of achievement senior secondary school students in North Central, Nigeria. Results for Psychological Environment indicates the p-value of .044 which is less than .05 hence the conclusion that Psychological Environment significantly influence academic achievement of senior secondary school students in North Central, Nigeria.

Results for School Environment indicates the p-value of .045 which is less than .05 hence the conclusion that School Environment significantly influence academic achievement senior secondary school students in North Central, Nigeria. The Technological Environment indicates the p-value of .047 which is less than .05 hence the conclusion that Technological Environment significantly influence academic achievement senior secondary school students in North Central, Nigeria.

Discussion of Findings

From the findings of this research, it was discovered that there was significant influence between learning environments and academic achievement of the students. This aligned with the study conducted by Adamu (2015) on impact of learning environment on the achievement of students in social studies in Taraba State, Nigeria. The findings are also consistent with earlier findings by Gidado (2000) who discovered that there was a significant relationship between certain environmental factors and academic performance of secondary school students in Bauchi State. The outcome of the study further revealed that learning environment was found to have positive impact on the performance of the students, hence the need to provide conducive learning environment in the schools.

It was also established from this study that learning environments such as home, psychological and technological did not influence the academic achievements of the students. This is at variance with an earlier finding by Balog 2018 whose research emphasized on the significance of technical tools in enhancing students' academic achievements. It was also not consistent with Ezike 2018 and Gilavand 2015 findings.

Also, the result of this research indicated that students 'academic achievements are generally below average. This confirmed an earlier by Shamaki, (2015) who emphasized the correlation of higher academic achievement of students to exposure to ideal learning environment as against the current findings of this study which revealed that learning environment is not necessarily related to student's academic achievement.

Conclusion

From the research findings obtained, it is concluded that for secondary school students to perform better, there is the need to ensure that adequate instructional facilities are provided across all secondary schools in the North Central States. This is obvious in view of their relevance in enhancing student's performance. Funding need to be increased, while teachers should be encouraged to ensure proper deployment and utilization of technology assisted lessons. The variations obtained against earlier studies also points to the need for additional research with increased sample sizes. This may enhance the validity of the conclusions reached.

References

- Adamu, N. (2015). Impact of learning environment on the performance of students in social studies in junior secondary schools in Taraba state, Nigeria. Zaria: *Unpublished. Masters degree thesis: ABU, Zaria.*
- Dhanpala. R.M (2021). The Effect of Learning Environment on Academic Performance From Students' Perspective. *Global Scientific Journal.* 3(9) 1524-1534
- Balog, N. Impacts of Learning Environment on Developers' Progress. 2018.(
<https://www.codingdojo.com/bog/impacts-of-the-learning-enviroment.>)
- Ezike, B. U. (2018) Classroom Enviroment and Academic Interest as Correlates of Achievemnts in Senior Secundaruy Schools in Ibadan South West Local Government Area. Oyo State, Nigeria. *Global Journal of Educational Research.* Vol. 17,2018; PP.61-71
- Gidado, G. K (2000) Enviromental Factors and Academic Performance of Secondary School Students in Bauchi Students in Bauchi State. *Abuja Journal of Education.* 3(1),5-15
- Gilavand, A(2015). Investigating the impact of Enviromental Factors on Learning and Academic Achievement of Elementary Students: Review. *International Journal of Medical Research & Health Sciences:* PP.360-369
- Glenn, M. (2012). Academic achievement and school ability: Implications to guidance and counseling programs. *Journal of Arts, Science & Commerce,* 3, 21.
- Kabacoff, R.I., and Stoffey, R.W. (2010). *Age differences in organisational leadership paper presented at 16th annual conference of the society for industrial and organisational psychology,* San Diego: California.
- Kamaruddin,, R., Zainal, N. R., & Aminuddin, Z. M. (2009). The quality of learning environment and academic performance from a student's perception. *International journal of business and management,* 4 (4), 171-175.
- Nnachi, R.O. (2007) *Advanced psychology of learning and scientific enquiries.* TOTAN Publishers, Owerri.
- Okoro, C. N. (2014). *School environment and teacher competency variable as correlates of learning outcomes of integrated science students with hearing impairment.* Ibadan: Unpublished Ph.D. Thesis, University of Ibadan.
- Shamaki, T. A. (2015). Influence of Learning Environment on Students' Academic Achievement in Mathematics: A Case Study of Some Selected Secondary Schools in Yobe State – Nigeria. *Journal of Education and Practice,* 6 (34), 40-44.
- Spencer CP and Blades M (2006). *Children and their environments.* Cambridge: Cambridge University Press.
- Usman, Y. D. and MadudiliC. G(2019). Evaluation of the Effect of Learning Enviroment on Studnts Academic Performance in Nigeria. US dept of education (<https://files.eric.ed.gov/fulltext/ED602386.pdf>)