

EFFECT OF CLASSROOM CLIMATE ON STUDENTS' ACHIEVEMENT IN LANGUAGE AND COMMUNICATION SKILLS IN FEDERAL COLLEGES OF EDUCATION IN SOUTH EAST NIGERIA

By

Assimonye, A. C. (PhD)

Educational Foundations
School of Education
Federal College of Education, Umuze,
Orumba South LGA., Anambra State, Nigeria

&

Okafor E. N. (PhD)

Educational Foundations
School of Education
Federal College of Education, Umuze,
Orumba South LGA., Anambra State, Nigeria

&

Martins-Umeh, N. F. (PhD)

Educational Foundations
School of Education
Federal College of Education, Umuze,
Orumba South LGA., Anambra State, Nigeria

Abstract

The study aimed to find out the effect of classroom climate on students' achievement in language and communication skills in Federal Colleges of Education South East Nigeria. Three research questions and three null hypotheses were posed to guide the study. The study adopted a survey research design. The area of the study was the South East Zone of Nigeria with all the year two (2) students of 2019/2020 session as the target population totaling 2,733. By proportionate stratified sampling technique, twenty percent (20%) of the students were sampled in each college making a sample size of 546. The research instrument used for the study was the researchers' developed questionnaire, trial tested on thirty students of year two from Federal College of Education

(Technical) Asaba. Cronbach Alpha was used to analyze the data collected and this gave an overall reliability coefficient of 0.71 and was considered adequate for the study. Data collected were analyzed using percentage, means, standard deviation and correlation analysis. All hypotheses were tested at 0.05 level of significance using t-test and ANOVA. The findings revealed that the academic achievement of students in language and communication skills was determined by classroom physical environment and teachers' leadership style. Secondly, there was a significant interaction between the classroom physical environment/teachers' leadership style and academic achievement of students in language and communication skills. The recommendations made included that the Federal government should provide all necessary resources and facilities in the colleges to enhance academic excellence in the colleges and that teachers should be well equipped with knowledge and skills in management and leadership in order to improve on school performance.

Keywords: classroom climate, students' achievement, language, communication skills

Introduction

Classroom is an educational space where teachers and learners interact with one another and with educational materials. This is a room that is found in educational institutions of all kinds, in an attempt to provide a safe space where learning can take place and uninterrupted by other distractions (Nuhu,2015). Chukwudum (2010) defined a classroom as the sum total of the space and equipment within which the teacher operates in his bid to carry out his job of teaching. Classrooms can be extended to non-traditional classrooms like workshops or laboratories in industries where teachers and students go to learn when on field trip. It depends on the way the teacher manipulates the resources both human and non-human within the environment.

Classroom climate encompasses all the socio-psychological dimensions of classroom life. It is seen by Chamberline (2007) as a subtle spirit that exists in a school both in the minds of the teachers and students and in every act, which may never be exactly described or analyzed but which an experienced observer recognizes when he enters a school. Classroom climate consists of a set of internal characteristics that distinguishes one school from another and influences the behaviour of the people in it. It is concerned with how the teacher and students feel about each other and the learning activities in hand. This includes behaviour and most notably the use of language by which both the teacher and the students can communicate. No single factor determines a school climate. Norton (2008) stated that a higher education classroom is a multidimensional environment comprising psychological and social interactions among a diverse academic community. According to Norton, the socio-ecological setting in which students function can affect their attitudes and moods, their self-concept, performance and general sense of wellbeing. The school environment or classroom climate could influence the performance of both teachers and students positively or negatively. Johnson and Johnson (2009) discovered that a positive school climate can yield educational and psychological outcomes to students and personnel whereas a negative climate can prevent optimal learning and development.

Classroom climate involves two variables - classroom physical facilities and leadership styles (Johnson, 2009). According to Nuhu (2015), a positive school climate means that students, staff, and visitors all feel safe. It is school climate that builds a culture of mutual trust and respect, engages participants, and supports a relationship between teaching and learning that can improve childhood health and academic performance. A hostile climate has threats to learners' physical and emotional safety and can take a great toll on students, leading some to be fearful of attending school and ultimately influencing negatively on their learning.

Researchers such as Coffman (2014) and Ryan (2013) showed that basic physical variables in one's environment, such as light, affect learning and may even influence a student's achievement. Bergen (2014), Marita (2012) and Nyamos (2013) have as well asserted that, school climate factors such as socio-economic status, parent involvement, attendance, school size, teaching learning resources and interpersonal relationship affect teachers' job satisfaction and this affects students' academic performance. Bergen (2014) found out that selected school climate factors such as socio-economic status, attendance and school size collectively had an influence on students' academic performance. Physical classroom climate, if adequately provided and maintained, is capable of influencing students and teachers positively (Olagboye, 2004). Adewuyi (2002) submitted in his study that conducive learning environment can have effect on both the attitudes and achievement of students. Positive classroom climate is relevant for students to achieve their educational goals and teachers to meet their instructional objectives as indicated by Asiabaka (2008) who argued that, the school physical facilities and other elements are the determinant factors in the attainment of educational goals. Nwagwu (2006) and Ogusanu (2004) maintained that the quality of education that children receive bears direct relevance to the availability or lack of physical facilities and overall atmosphere in which learning takes place. It is clear from literature that the climate of a learning situation positively or negatively affects the learning outcome. A study conducted by Isaac, Haastrup and Osalusi (2011) and Kartal (2016) revealed a significant relationship between learning environment and school effectiveness and that positive learning environment could significantly improve the academic performance of students in secondary schools. Samani (2011) concluded that improved lightening in learning environments enhances students' motivation to learn more. Wu (2014) on the impact of teachers' leadership style on students' performance indicated that teacher's leadership styles were directly related to students' performance.

Achievement in the context of this study specifically refers to academic attainment of students after undergoing lessons. Achievement is both indicative and predictive. The measurement of achievement is usually done using assignments, projects, tests and examinations. In Nigeria, tests and examinations basically serve the purposes of evaluating and predicting the standard of achievement of the students in school subjects. This study deemed it necessary to find out the effect of classroom climate on students' achievement in language and communication skills in Federal Colleges of Education in South East Nigeria.

Purpose of Study

The main aim of this study was to find out the effect of classroom climate on students' achievement in language and communication skills in Federal Colleges of Education in South East. Specifically, the study intends to

1. Find out the extent to which classroom physical environment relates to students' achievement in language and communication skill courses.
2. Find out the extent teachers' leadership style relates to students' achievement in language and communication skill courses.
3. Determine the extent to which the joint contributions of classroom physical environment and teachers' leadership style correlate with students' achievement in language and communication skill courses.

Research Questions

The following research questions were posed to guide the study.

1. To what extent does classroom physical environment relate to students' achievement in languages and communication skill courses in Federal Colleges of Education in South East Nigeria?
2. To what extent does teachers' leadership style relate to students' achievement in languages and communication skill courses?
3. To what extent do joint contributions of classroom physical environment and teachers' leadership styles correlate with students' achievement in languages and communication skill courses in Federal Colleges of Education in South East Nigeria?

Research Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

- H₀₁: There is no significant relationship between classroom physical environment and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.
- H₀₂: There is no significant relationship between teachers' leadership style and students' achievement in language and communication skill courses.
- H₀₃: There is no correlation between classroom physical environment and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

Research Design

The study adopted a survey research design. This type of research design is appropriate for studying how the peculiarities of classroom climate could affect the performance of different student groups at the tertiary institution levels. The purpose of using this design agrees with Uzoagulu (2014) who asserted that survey design is the one in which a group of people or items are studied by collecting and analyzing data from only a few considered to be representative of the entire group.

Area of the Study

The area of the study is the South East Zone of Nigeria, which comprises five States -Abia, Imo, Anambra, Enugu and Ebonyi. They have three federal Colleges of Education, namely; Federal College of Education (Technical) Umunze, Federal College of Education Eha-Amufu and AlvanIkokuFederal College of Education Owerri. AmongState Colleges of Education in the zone are Abia State College of Education, Enugu State College of Education Technical Enugu and Nwafor Orizu College of Education, Nsugbe. The people of this area are predominantly Igbo among who are farmers, politicians, civil servants and traders. The choice of this area is because the people value quality schools and education. They highly patronize good schools.

Population

The target population for the study comprised of all the year two (2) students of Federal Colleges of Education in South East. There are a total of three Federal Colleges of Education in South East with 2,733 second year students in 2019/2020 academic session. The detail of the target population is given on the table.

Table 1: Population Distribution of Respondents

S/N	SCHOOL	NO OF YEAR 2 STUDENTS
1	F.C.E.(T), Umunze	826
2	F.C.E.(T), Eha-Amufu	977
3	AlvanIkoku Federal College of Education, Owerri	930
	Total	2733

Source: (The Records offices of FCE(T), Umunze, F.C.E. Eha-Amufu and AIFCE, Owerri, 2019).

Sample and Sampling Techniques

Proportionate stratified sampling technique was adopted in selecting the number of year two (2) students in the colleges. Twenty percent (20%) of the students were sampled in each college. The number of year two (2) students sampled in F.C.E. (T) Umunze was 165, F.C.E. Eha-amufu 195 while AICFE Owerri was 186. Thus, the sample size was 546. (See appendix)

Research Instrument

The research instrument used for the study was the researchers' developed questionnaire titled the "Effect of Classroom Climate on Students' Achievement in Language and Communication questionnaire in South East Nigeria (ECCSAQ). The questionnaire items were developed from primary and secondary sources of information and organized in two sections-A and B. Section A was on the bio-data of the respondents while section B was to collect information on the research questions posed for the study. The response format was a modified 4 – point scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) and weighted 4, 3, 2 and 1 points respectively.

Validation of the Instrument

The instrument was subjected to three experts for validation. Two experts were from the field of Curriculum and Instruction and one from Measurement and Evaluation. The experts were requested to look at the adequacy of the items in line with the purpose, research questions as well as the rating scale. Corrections were effected in some of the items and on the response options.

Reliability of Instrument

The instrument was subjected to a reliability test by administering some copies of the instrument on thirty students of year two from Federal College of Education (Technical) Asaba. Cronbach Alpha was used to analyze the data collected. The results of the analysis gave a reliability

correlation coefficient of 0.76 for section B, 0.87 for section C and 0.72 section D and this gave an overall reliability coefficient of 0.71 and was considered adequate for the study.

Method of Data Analysis

Data collected were analyzed using percentage, means, standard deviation and correlation analysis.

All hypotheses were tested at 0.05 level of significance using t-test and ANOVA.

DATA ANALYSIS AND RESULTS

Research Question 1: To what extent does classroom physical environment relate to students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria?

The summary of data analysis of research question is presented in table 4.1.

Table 4.1: Summary of Relationship between Classroom Physical environment and Students' Achievement

		Physical Environment	Students' Achievement	R ²	
Physical environment	Pearson correlation	1	0.20	0.44	4.4%
	Sig. (2-tailed)		.313		
	N	546	546		
	Pearson correlation	0.20	1		
Achievement	Sig. (2-tailed)	.313			
	N	546	546		

Table 4.1 presents the summary of the relationship between classroom physical environment and student achievement in Federal Colleges of Education in South East Nigeria. The results show that the relationship between classroom physical environment and students' achievement is 0.20. This result indicated that the coefficient of determination is 0.044. This means that 4.4% of students' achievement is determined by classroom physical environment. Hence, the relationship between classroom physical environment and students' achievement is of low extent.

Research Question 2. To what extent does teachers' leadership style relate to students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria?

Table 4.2: Summary of the Relationship between Teachers' Leadership Style and Students' Achievement in Language and Communication skill courses

		Teachers' Leadership Style	Achievement	R²	100R²
Teachers' Leadership style	Pearson correlation sig. (2-tailed)	1	0.36		
	N	546	546	0.130	13.0%
Achievement	Pearson correlation Sig. (2-tailed)	0.36	1		
	N	.000	546		

Table 4.2 presents the summary of the relationship between teachers' leadership style and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria. The results show that the relationship between leadership styles and students'

achievement is 0.36. This result indicates that the coefficient of determination is 0.130. This means that 13.0% of students' achievement is determined by leadership style. Hence, the relationship between teachers' leadership styles and students' achievement is of low extent.

Research Question 3: To what extent do the joint contribution of classroom physical environment and teachers leadership styles correlate with students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria?

Table 4.3: Summary of multiple Regression of combined effect of classroom physical environment and Teachers' leadership styles on students' achievement in language and communication skill courses.

Model	R	R ²	Adjusted R ²	Percentage contribution	Students Error of the Estimate
1	0.48	0.23	0.21	4.4%	4.1628

Table 4.3 presents the summary of multiple regression of classroom physical environment and teachers' leadership styles on students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria. The results show that the combined relationship of classroom physical environment and teachers' leadership styles with students' achievement is 0.48. The result indicates that the coefficient of determination is 0.044. This means that 4.4% of students' achievement is determined by classroom physical environment and teachers' leadership styles.

Hypothesis 1: There is no significant relationship between classroom physical environment and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

Data analysis of this hypothesis is summarized and presented in table 4:4.

Table 4.4: Summary of t-test analysis of classroom physical environment and students' achievement in language and communication skills in Federal Colleges of Education in South East Nigeria.

Sources of variation	N	R	Df	t-cal	t-tab	Significant level
Classroom physical environment	546	0.20	544	109.22	1.96	0.05
Students' Achievement						

Table 4.4 presents summary of t-test analysis of classroom physical environment and students' achievement in language and communication skills in Federal Colleges of Education in South East Nigeria. The result showed that t-calculated is 109.22 and t-tabulated is 1.96 at 0.05 level of significance and degree of freedom of 544. Since the t-calculated is greater than t-tabulated, the null hypothesis is rejected. This means that there is a significant relationship between classroom physical environment and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

Hypothesis 2: There is no significant relationship between teachers' leadership style and students' achievement in language and communication skills in Federal Colleges of Education in South East Nigeria.

The data analysis of this hypothesis is summarized and presented in table 4.5.

Table 4.5: Summary of t-test analysis of teachers' leadership style and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

Sources of variation	N	R	Df	t-cal	t-tab	Significant level
Teachers' leadership Style	546	0.36	544	0.335	1.96	0.05
Students' Achievement						

Table 4.5 presents summary of t-test analysis of teachers' leadership style and students' achievement in language and communication skills in Federal Colleges of Education in South East Nigeria.

The result showed that t-calculated is 0.335 and t-tabulated is 1.96 at 0.05 level of significance and degree of freedom of 544. Since the t-calculated is greater than t-tabulated, the null hypothesis is rejected. This means that there is a significant relationship between teachers' leadership style and students' achievement in language and communication skills in Federal Colleges of Education in South East Nigeria.

Hypothesis 3: There is no correlation among classroom physical environment, teachers' leadership style and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

The data analysis of this hypothesis is summarized and presented in table 4.6.

Table 4.6: Summary of Analysis of variance (ANOVA) of classroom physical environment, teachers' leadership style and students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

Model	Sum of Squares	Df	Mean Squares	F	Sig.
Regression	474.05	2	237.025	31.36	.000
Residual	4086.66	543	7.556		
Total	4560.7	545			

Table 4.6 presents the summary of the significant difference between the two variables of classroom climate (classroom physical environment and teachers' leadership style) on students' achievement in language and communication skill courses in Federal Colleges of Education in South East Nigeria.

F-calculated is 31.36 and the significant level is less than 0.05. This means that there is a significant interaction between the independent variable (classroom physical environment and teachers' leadership style) and students' achievement.

Discussion of Findings

The discussions were made according to the three research questions answered and three hypotheses tested at 0.05 level of significance.

Research question one was analyzed and the results implies that classroom physical environment and students' achievement are related. This finding is consistent with what Nwagwu (2006),

Ogunsanu (2004) and Asibiaka (2008) all held that physical variables in one's environment such as light, affects learning and may even influence a student's achievement and behaviour. Also Ryan (2013) reported that, colours of the walls, the amount of natural light and the degree to which classrooms are personalized can all affect pupils' progress and test results. Marita (2012) found out that the provision of good classroom facilities helps in influencing and stimulating the drive to make pupils learn. Nuhu (2015), Isaac, Haastrup and Osalusi (2011), Samani (2011) and Kartal (2016) also found out that provision of good learning environment such as adequate classrooms, good lightning, good laboratories, well equipped libraries, adequate qualified teachers and conducive working conditions boost the performance of students in schools. The result of Hypothesis one showed that there is a significant relationship between the classroom physical environment and academic achievement of students.

Research question two was analyzed and the results implied that the relationship between teachers' leadership style and students' achievement is of low extent. Hypothesis two found a significant relationship between teachers' leadership styles and students' academic achievement just as Bergen (2014) found a significant relationship between classroom climate and such matters as teachers' leadership style, principal leadership style. Kartal (2016) and Wu (2014) also held that held leadership style was directly related to interpersonal relationships and optimal learning opportunities for students' school environment, which can increase achievement levels and reduce maladaptive tendencies.

Research question three sought answer to the combined effect of classroom physical environment and teachers' leadership styles on students' achievement in language and communication skills. The result of the study showed that 44% of the students' achievement is determined by classroom physical environment and teachers' leadership styles. The findings are in line with the work of

Nyanosi (2014) who found that quality facilities, professional expertise, collegial leadership, teacher professional expertise and co-ordinal relationships all have a positive relationship with academic performance. But this finding disagrees with the work of Okeke (2017) who found that a relationship does not exist between principal's transformational leadership style and students' achievement. Hypothesis three found a significant relationship between the classroom physical environment, teachers' leadership styles and students' academic achievement. The study concluded as follows:

- The academic achievement of students in language and communication skills is determined by classroom physical environment and teachers' leadership style.
- There is a significant interaction between the classroom physical environment/teachers' leadership style and academic achievement of students in language and communication skills

Recommendations

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

1. There is the need for the colleges to provide adequate classroom physical facilities for learning.
2. The Federal government should provide all necessary resources and facilities in the colleges to enhance academic excellence in the colleges.
3. Teachers should be well equipped with knowledge and skills in management and leadership in order to improve on school performance.
4. Teachers should make genuine and authentic effort to put the needs of students at the forefront for improved students' academic achievement.

References

- Adewuyi, D. A. (2002). Comparison between School Effectiveness, Characteristics and development Classroom Instruction Strategies in the United States and Nigeria. *Journal for African*, 27 (1 and 2), 263-287. On 11 – 4 – 2012.
- Asiabaka, F. (2008). A Learning Environment- A Euphemism for Instruction or a Potential for Dialogue. *International Journal of Educational Research*, 14(12): 625-632.
- Bergen, K. N. (2014). Classroom climate in American schools. *Review of Education Research*. 5(1), 99-109.
- Chamberline, C. (2007). *Classroom climate: News from the University of Illinois at Urban*. Champaign: University of Illinois Press.
- Chukwudum, E. O. (2010). *A professional teacher's methodology handbook in agriculture*. Annyco Publishers: Umunze.
- Coffman, T. O. (2014). *School environment and school performance*. Lewis Fulmer Press.
- Isaac, A.A., Haastrup, T. & Osalusi, F. M. (2011). Relationship between Learning Environment and Effectiveness of Secondary schools in Nigeria. Retrieved from <http://www.dx.doi.org/10.5539/ies.v5np44>. on 12 - 2 – 2014.
- Johnson, D. I. (2009). Connected classroom climate: A validity study. *Communication Research Reports*, 26, 146–157.
- Kartal, S. E. (2016). Determining school administrators' perception on classroom climate and students performance. *International Journal* 5(2), 152-166.
- Mari, N. (2012). Importance of a positive classroom climate. Retrieved from <https://mnosal49.wordpress.com/2012/12/27/importance-of-a-positive-classroom-climate/>
- Marita, I. (2012). Teacher classroom management. *Journal of Educational Evaluation*. 42(2), 112-117.
- Norton M. S. (2008). What is so important about school climate? *Contemporary Education*, 56, 43-45. <http://education.gsu.edu/schoolsafety>.
- Nuhu, A. (2015). Impact of learning environment on the performance of students in Social Studies in junior secondary schools in Taraba state, Nigeria. *A master degree thesis of Amadu Bello University, Zaria*.
- Nwagwu, N. A. (2006). Promoting School Plant Maintenance Culture in Nigerian School System. *Lagos Journal of Educational and Planning*, 2(1) 140-143
- Nyanosi, S. N. (2013). *Classroom learning environment*. London Press.
- Ogusanu, L. B. (2004). School size, Class size and Teacher's Quality as Correlation of International Efficiency in Primary School. *Journal of educational Research and Evaluation*, 1, (4), 56-58
- Okeke, J. P. O. (2017). Nigerian culture: A barrier to the career progress of women in Nigeria. *Global Journal of Human Resource Management*, 5(5), 1-11.
- Olagboye, A. A. (2004). *Introduction to Educational management in Nigeria*. Ibadan: Daily Graphics Nigeria limited.

- Ryan, H. (2013). The Effect of Classroom Environment on Student Learning. *Honours thesis*, Lee Honours College, Western Michigan University.
- Samani, A. S. (2011). The influence of light on students learning performance in learning environment: a knowledge internalization perspective. *International Journal of world Academy of Science, Engineering and Technology*, 15 (3) 540-543
- Uzoagulu, A.E. (2014). *Practical guide to writing research projects in tertiary institutions*. Enugu: John Jacob's Classic Publishers Limited.
- Wu, C. S. (2014). *School Administrator*. Taiwan: Psychological Press.