E-ISSN: 1115 - 8425 P-ISSN: 3027-012X
MPRI-JAEE | INTERNATIONAL JOURNAL OF ASSESSMENT & EVALUATION IN EDU.
VOL. 09 NO. 8 – JULY. 2025

COMPARATIVE STUDY OF CLASS SIZE ON MALE AND FEMALE STUDENTS' ACADEMIC PERFORMANCE IN SENIOR SECONDARY SCHOOLS IN AKWANGA LOCAL GOVERNMENT AREA OF NASARAWA STATE

SAMUEL ANTHONY ADIGIZI; SHADRACH ONMONYA GODWIN; AHMED ISA; SHUAIBU SANI; & DR. IBRAHIM TANKO

Department of Educational Management Nasarawa State University Keffi.

Corresponding Author:
anthonysamuelashelame1234@gmail.com

DOI: https://doi.org/10.70382/mejaee.v9i8.069

Abstract

Teachers are leaders that influence student's needs, skills as well as self-confidence, self-respect, status and control of themselves and their environment in order to perform their duties well. The professional responsibilities include; the organization of classroom, physical environment, as well as the management of student's behavior. The school as a vital institution ensures that young one's receive good education. Education is concerned with formation of character, the development of intellectual capabilities of the individuals and the improvement and transformation of cultural heritage. It also involves the equipment of individuals with knowledge and skills, value and attitude that will enable them to earn a living in a fast changing world and in turn, contribute to the improvement and welfare of the society.

Keywords: Class size, Academic Performance, Gender differences, Students outcomes, Comparative study, Secondary schools.

Secondary education is the antechamber to higher education hence; secondary schools serve as the major source of recruitment into higher institutions of learning. Therefore, the Joint Matriculation Examination Board (which is the qualifying examination for entrance into the University, Polytechnics and Colleges of Education) in Nigeria and the School Certificate Examination have been the instrument and criteria by which performance of student or output quality of students are measured.

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

Introduction

Secondary education is the antechamber to higher education hence; secondary schools serve as the major source of recruitment into higher institutions of learning. Therefore, the Joint Matriculation Examination Board (which is the qualifying examination for entrance into the University, Polytechnics and Colleges of Education) in Nigeria and the School Certificate Examination have been the instrument and criteria by which performance of student or output quality of students are measured. Onwuegbu (2015) other things being equal, students in smaller classes at school should do better in terms of attainment; convincing experimental evidence.

However, a relationship between small classes and better outcomes has not been evident in individual-level studies, possibly because of endogeneity arising from low-attaining or otherwise 'difficult' students being put into smaller classes than their higher-achieving counterparts. In most third world countries, enrolment exceeds provision for secondary education in terms of adequate furnished classroom. The poverty level and low classroom utilization rates in these countries worsen the situation. Nigeria is a third world country where the situation is not different.

Secondary education in Nigeria is poorly funded, hence most of the secondary schools experience classroom congestion, low student-classroom-space and low classroom utilization rates. These situations may likely affect secondary school students' academic performance adversely. The large number of students passing through the secondary school system in Akwanga is a serious problem, particularly with the states government's inability to provide adequate furnished classrooms. The National policy on Education (2012) prescribed a maximum of 30 students in a class, but in most secondary schools in the state average class size exceeds 50. The situation has negative impact on the average classroom-space per student. In most of the secondary schools in Akwanga, the classroom utilization rate in perpetually low. This is because most of the schools are not able to have the eight periods in most school days. The few secondary schools that have enough teaching staff, at times have low classroom utilization rates, perhaps because of poor supervision. This situation does not favour academic learning.

Teachers are leaders that influence student's needs, skills as well as self-confidence, self-respect, status and control of themselves and their environment in order to perform their duties well. The professional responsibilities include; the organization of classroom, physical environment, as well as the management of student's behavior. The school as a vital institution ensures that young one's receive good education.

Statement of the Problem

Teaching has been noted as one of the most difficult jobs in the world. It becomes more difficult when the teacher is overwhelmed with the problems of classroom management.

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

In order not to be placed in this position, there is need for effective classroom management. This effectiveness of classroom size depends on the provisions of good teachers, good facilities, and adequate knowledge of the subject matter, personnel, fund, and provision of good physical learning environment, good leadership style, good personality and attributes that will ensure the maintenance of student's interest. Absence of all these leads to poor performance in the examination, accompanied by cheating and the standard of education continues to fall. It is against this background that this study investigated the impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State., and how they affect teaching and learning situation of the schools under study.

Research Questions

The following research questions were raised to facilitate the investigation:

i. What is the significant impact between academic performance of students taught by professional and non-professional impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State?
ii. What is the significant impact between academic performance of male and female students on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State?
iii. What is the significant impact between academic performance of students from rural and urban locations on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State?

Objectives of the Study

The main purpose of this study is to investigate the impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State specifically, this work intended to:

i. Determine a significant impact between academic performance of students taught by professional and non-professional teachers on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State.
ii. Determine a significant impact between academic performance of male and female students on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State.

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

iii. Determine a significant impact between academic performance of students from rural and urban locations on influence of impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State.

Statement of the Hypotheses

To facilitate the investigation, the following hypotheses were tested at 0.05 level of significance:

i. There is no significant impact between academic performance of students taught by professional and non-professional teachers on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State.
ii. There is no significant impact between academic performance of male and female students on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State.
iii. There is no significant impact between academic performance of students from rural and urban locations on impact of classroom management in teaching and Learning of Economics in Public Secondary Schools in Akwanga Local Government Area of Nasarawa State.

Significance of the Study

It is expected that the findings of this study would enhance the teaching and learning in Nasarawa State Secondary Schools. The study might have accruable benefit to teachers who think that classroom management is a big problem. The study would help student teachers, new teachers and older teacher's in the area of classroom management. It will enable the principals, the government and administrators of education to know the areas of need in classroom management. The recommendation if adhered to will lead to the improvement of student's performance and increase standard of education.

RESEARCH METHODOLOGY

Research Design

The study adopted survey design. This is because the researchers are interested in determining the influence of class size in secondary schools. The study is survey because it collects evidence from assessors for passing judgment over the issue under the investigation.

Population of the Study

The population for the investigation consists of all students within the secondary schools in Akwanga Local Government Area of Nasarawa State. The target population consists of 7,324 students which comprise of 4020 male and 3304 female.

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

Table 1 population frame of schools and Students

S/NO	SCHOOL	STUDENTS		
		M	**F**	**TOTAL**
	GSS Akwanga	1020	700	1720
	GC Akwanga	1000	500	1500
	GJSS Akwanga	800	900	1700
	GSSS Akwanga	700	800	1500
	GSS Akwanga-West	500	404	904
Total	**5**	**4020**	**3304**	**7324**

Source: Area Inspectorate Office, Akwanga (2021)

Sample and Sampling Procedure

Simple random sampling strategy was adopted to select 4020 male and 3304 female respondents that responded to questionnaire designed by the researchers. Respondents' sample was drawn in such a way as to reflect gender representation.

Table 2 Sample Frame of Students by Schools and Sex

S/NO	SCHOOL	STUDENTS		
		M	**F**	**TOTAL**
	GSS Akwanga	1020	700	1720
	GC Akwanga	1000	500	1500
	GJSS Akwanga	800	900	1700
	GSSS Akwanga	700	800	1500
	GSS Akwanga-West	500	404	904
Total	**5**	**4020**	**3304**	**7324**

Source: Area Inspectorate Office, Akwanga (2021)

Instrumentation

The instrument for the data collection consists of a Likert scale type of questionnaire with two sections (A and B). Section 'A' consists of background information focused on relevant independent variables such as location and sex. Section 'B' contains items on influence of classroom management on students' academic performance in secondary school in Akwanga Local Government Area of Nasarawa State.

Validity of the Instrument

To ensure that the instrument measured what it supposed to measure; face validity was sought and obtained by subjecting the instrument to critical appraisal of the experts in Educational Management. The experts were requested to rate the instrument in terms of

appropriateness in focus coverage and language. The researchers obtained 0.62 validity index.

Reliability of the Instrument

A pilot study were conducted from selected public secondary schools in Akwanga that are part of the target population of the study but are not part of the sample. One questionnaire was presented to each expert for one-on-one discussion with the researchers. After the pilot survey, the researchers made the necessary amendments to the questionnaire as requested by the expertsand obtained 0.67 as reliability index in view. This ensured that the instrument was reliable to carry out the study.

Administration of Research Instrument

These studies were conducted during the normal school time and the teachers' normal school hours. The questionnaire was administered to teachers and students by the researchers in the selected schools within Akwanga Local Government Area of Nasarawa State.

In the course of respond to the instrument, the respondents were not allowed to consult or discuss with their classmate or friends before answering the question. This was necessary measure taken to avoid external influence.

Procedure for Data Analysis

Data generated from this study will be collated into frequencies and analyzed using descriptive statistics and simple percentage to investigate the influence of classroom management in secondary school students' academic performance in Akwanga Local Government Area of Nasarawa State. For the null hypothesis, t- test statistic was applied for the tests of significance.

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Demographic Data

Table 2: Distribution of Respondents by Gender

Variables	No. of Respondents	Percentage %
Female	**165**	**55%**
Male	**135**	**45%**
Total	300	100%

Table 2 indicated the distribution of respondents according to gender. From the table, 165 respondents representing 55% of the population were female while 135 respondent

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

representing 45% of the sampled of population were male. By implication, majority of the respondents within the study area are female.

Table 3: Distribution of Respondents by Locations

Variables	No. of Respondents	Percentage %
Urban	**180**	**60%**
Rural	**120**	**40%**
Total	300	100%

Table 3 indicated the distribution of respondents according to location. From the table, 180 respondents representing 60% of the population were from urban schools while 120 respondents representing 40% of the population are from rural schools. This indicated that, majority of the respondents within the study area are from urban location.

Table 4: Distribution of respondents by experience

Variables	No. of Respondents	Percentage %
professional	**150**	**50%**
Non-professional	**150**	**50%**
Total	300	100%

Table4: 150 representing 50% of the sampled population in this group are professionals while 150 representing 50% were non-professionals. These data showed that the respondents in both professional and non-professional were equally sampled.

Analysis of Research Questions

Research Question i

What is the significant difference between academic performance of students by professional and non-professional teachers on influence of classroom management?

Table 5: Descriptive statistics of teachers' experience

Variables	No. of Respondents	Mean (x)	Standard Deviation (S.D)
professional	**150**	**14.60**	**1.04**
Non-professional	**150**	**12.00**	**5.40**

From the analysis shown in table 5, the study reveals that, there is significant difference between academic performance of students by professional and non-professional

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

teachers on classroom management in Akwanga Local Government area of Nasarawa State. This has answered research question i. "What is the significant difference between academic performance of students by professional and non-professional teachers on influence of classroom management?"By implication, there is lack of qualified and specialized teaching staff to handle the class centre.

Research Question ii

What is the significant difference between academic performance of male and female students on classroom management?

Table 6: Descriptive Statistic of students by gender

Variables	No. of Respondents	Mean (x)	Standard Deviation (S.D)
Male	**165**	**3.44**	**1.04**
Female	**135**	**3.93**	**1.16**

From the analysis shown in table 6, the study reveals that there is significant difference between academic performance of male and female students on classroom management in Akwanga Local Government Area of Nasarawa State. This has answered Research question ii, "What is the significant difference between academic performance of male and female students on classroom management?"

Research Question iii

What is the significant difference between academic performance of students from rural and urban locations on classroom management?

Table 7: Descriptive statistic of students' locations

Variables	**No. of Respondents**	**Mean (x)**	**Standard Deviation (S.D)**
Urban	**165**	**3.44**	**1.04**
Rural	**135**	**3.93**	**1.16**

From the analysis shown in table 7, the study reveals that, there is significant difference between academic performance of students in urban and from those in the rural schools in Akwanga Local Government Area of Nasarawa State. This has answered research question iii. "What is the significant difference between academic performance of students from rural and urban locations on classroom management?"

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

Testing of Hypotheses and Interpretation

Interpretation of Results

Hypothesis i: There is no significant difference between academic performance of students by professional and non-professional teachers on classroom management.

Table 8: T-Test result for difference between professional and non-professional teachers

Variables	Number of Count	DF	Mean (x)	Standard Deviation	t-cal	t-tab	A	Decision
professional	150		14.60	1.04				
		298			4.87	1.96	0.05	Rejected Hoi
Non-professional	150		12.00	5.40				

Table 8 shows the t-test results for significance difference between academic performance of students by professional and non-professional teachers in Akwanga Local Government Area of Nasarawa State. Furthermore, at 0.05 level of significance and degrees of freedom of 298, the t-test value is 4.87 which is greater than critical value of 1.96. Therefore, since the calculated value of t-test is greater than its tabulated value, the hypothesis is therefore rejected in favour of alternative hypothesis. Hence, there is significant difference between academic performance of students by professional and non-professional teachers in Akwanga Local Government Area of Nasarawa State.

Hypothesis ii: There is no significance difference between academic performance of male and female students on classroom management in Akwanga Local Government Area of Nasarawa State.

Table 9: T-test result for difference between male and female students.

Variables	Number of Count	DF	Mean (x)	Standard Deviation	t-cal	T-tab	A	Decision
female	165		3.44	1.04				
		298			4.31	1.96	0.05	RejectedHoii
Male	135		3.93	1.16				

Table 9 shows the t-test results for significant difference between academic performance of male and female students on classroom management. Furthermore, at 0.05 level of significance and degree of freedom of 298, the t-test value is 4.31 which is greater than critical value of 1.96. Therefore, since the calculated value of t-test is greater than its tabulated value, the hypothesis is therefore rejected in favour of alternative hypothesis. Hence, there is significant difference between academic performance of male and female

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

students on classroom management in Akwanga Local Government Area of Nasarawa State.

Hypothesis iii: There is no significant difference between academic performance of students from urban and rural locations on classroom management in Akwanga Local Government Area of Nasarawa state.

Table 10: T-test result for difference between academic performance of students from rural and urban locations

Variables	Number of Count	DF	Mean (x)	Standard Deviation	t-cal	t-tab	A	Decision
Urban	**180**		**341**	**0.98**				
		298			**4.87**	**1.96**	**0.05**	**Rejected Hoiii**
Rural	**120**		**395**	**1.12**				

Table 10 show the t-test result for significant difference between academic performance of students from rural and urban locations on classroom management in Akwanga Local Government Area of Nasarawa State.Furthermore, at 0.05 level of significance and degrees of freedom of 298, the t- test was 4.87 which is greater than critical value of 1.96. Therefore since the calculated value of t-test is greater than its tabulated value; the hypothesis is rejected in favour of alternative hypothesis. Hence, there is significant difference between academic performance ofstudents from urban and rural locations in Akwanga Local Government Area of Nasarawa State.

Discussion of findings

A Critical examination of the research results showed that academic performance of students depends on the provision of good teachers, good facilities, adequate knowledge of subject matters, personnel and provision of good physical learning environment. Implication, absence of all these factors lead to poor performance in their academic accompanied by cheating and the standard of education continues to fall. The findings of the study contradict earlier results. For instance, Daniel (2006) who found that, class size whether large or small was not related to academic performance of pupils in a standardized achievement test.

However, the findings of this study are in agreement with Ojoawo (1989) who revealed that the class size were found to be negatively related to school academic performance.

Conclusion

Findings from this study warrant the following conclusion:

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]

The findings suggest that students prefer a balanced approach. This implies that teachers should adopt a balanced teaching approach in order for all learning objectives to be met with classroom management.

Teachers need to reflect on whether they match teaching styles with teaching methodologies in classroom management.

Some of the school has no sufficient instructional materials which the ministry of education is expected to provide. The inadequacy of these facilities leads to the poor quality of knowledge impacted into students in the process of teaching and learning process.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. The government should employed professional teachers in order to improve students' academic performance of students in relation to classroom management
2. Principals, government and other stakeholders should ensure that teachers are appropriately motivated. Incentives like better salary packages and bonuses should be used as tools to motivate teachers for excellent academic performance of students.
3. The Ministry of Education at the state level should intensify supervision and inspection of schools to ensure that academic performance of students from rural and urban locations are up to standard.

References

Angrist H, and Deaton B. (1999). Effects of cooperative and individualistic problem solving strategies on students learning outcomes in secondary school mathematics.Unpublished dissertation, university of Ibadan.

Akerheilum, R. (1995). Data envelopment analysis for weight derivation and aggregation in the analytic hierarchy process.*Computers & Operations Research 33, 1289 1307.*

Barbara, C and Jeane M. (1982).Verbal and non-verbal, Strategies for effective teaching of Electricity an. A paper presented at the science. Teachers Association of Nigeria.

Natiobnal workshop Calabar Cross -River State from 10th – 15th May 1999

Botton. O (19986). Professional Circular No 11/2002: Implementation of Teaching and L:earning Science and Mathematics in English. IN OFFICE, D. G. (Ed).Putraja, Malaysia.

Bource, D. (1978). Data Envelopment Analysis a Non-Mathematical Introduction.*Operational Research Insight, 22-28.*

Bozzmo, O. (2000). Reflective and intellectual position papers on mathematics education issues.Published by Marvelous Mike Ventures Ltd No. 7 Abeokuta Street, off Ogbomosho Street Garki Abuja.

Case, N. and Deaton, G.A (1999.Mathematics in Nigeria Secondary Schools.A Teaching Perspective.Port-Harcourt – Rex – Charles and Patrick Ltd.

Cahem and Davis. (1987). "Evaluation of An Achievement Test in Pre- Calculus Subjects are Related to Some Variables". Unpublished Master's Thesis.University of Northern Philippines, Vigan City, Ilocos Sur.

Coleman, S. (1987). Principles and Methods of Teaching. Quezon City Phoenix Publishing House Inc. Lee, Queena. "Eureka, Are Math Teachers Competent?".Sunday Inquirer Magazine Vol. 6 Nos. 49 and 50. February 9,

Edge J. S. (1980) *Public Sector Efficiency Measurement: Applications of Data Envelopment Analysis,* Elsevier Science Inc.

Fabunmi, S.O (2000). *Fundamentals of test, measurement and evaluation with psychometric theories.*Makurdi: SAP Selfers Academic Press Ltd.

Federal Republic of Nigeria (2004) National Policy on Education 4th edition Abuja Government Press.

Idienumah V. (1987) Bridging the gap between the constant and variable returnsto-scale models: selective proportionality in data envelopment analysis. *Journal of the Operational Research Society,* 55,265-276.

Leiberman, C.M. (2000). *Measurement and evaluation of teacher education* (2nd ed.) Enugu: SNAAP Press Ltd.

Latifah, G.C (2013) Principal and practice of mathematics education in Nigeria.Published by Fioxtone Press, Enugu.

Lois V.J. Mary B (1970) Mathematics phobia diagnosis and prescription, Enugu: SNAAP

Loeb and Bound P. (1996). "Factors Influencing the performance of College Students in Mathematics in State Universities in Region I", Don Mariano Marcos Memorial State University, La Union.

Marzano. (2000a and 2003b) *Data envelopment analysis: the assessment of performance,* Chichester; New York, Wiley.

National Policy on Education (1981). Methods of classroom management in schools.

Nwenkwo E. (1998) Efficiency Evaluation in Secondary Schools: the key role of model specification and of ex post analysis of results. *Education Economics*,7,131 – 152.

EDITOR-IN-CHIEF
Prof. A.I. Mteiye [MALAWI]