**INFLUENCE OF CLASSROOM SIZE ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN NIGERIA**

**ABSTRACT**

This research was performed to examine the influence of class room size on academic performance of secondary school students in Nigeria since classroom congestion and low utilization rate of classrooms are common features of secondary schools in Nigeria which have negative impact on both secondary school teacher productivity, student learning input and secondary school student academic performance that at the end influences the reputation of a school. In analyzing the data collected for the purpose of carrying out this research, the statistical tool known as the Pearson Product Moment Correlation (PPC) and the statistics were used. The use of sample percentage was employed, and Tables were used in presenting the data. Primary and secondary data were also used. The study was conducted in Akwa Ibom state, Nigeria and carried out in Champion secondary school, Uyo, Akwa Ibom state. The population of Akwa Ibom state was discovered to be 9.5million (according to Akwa Ibom state Government). Out of the entire population of 100staffs of Champion secondary school Uyo, Akwa Ibom state, 50 persons were selected using simple random sampling. A pilot study was conducted on ten staff of champion secondary school to pre-test the efficacy of the questionnaire. The feedback received was used in the final draft which enhances it reliability. Findings from the study showed that there is a strong and positive relationship between class room sizes and academic performance in secondary schools. There is also significant effect between the classroom size and the academic performance of secondary school students in Nigeria.

**CHAPTER ONE**

**INTRODUCTION**

**1. BACKGROUND OF STUDY**

Qualitative education remains the fulcrum for global development and freedom. Therefore all hands must be on deck worldwide to formulate policies that will enhance qualitative education right from elementary school to tertiary institution, and continuous, effective monitoring must be well established to check all factors that may frustrate this global pursuit. Hence, most societies require children to attend school for a specified number of years or until they reach a certain age. Many of the benefits of schooling occur in part because students learn some new knowledge or skills that enhance their ability to communicate, solve problems, and make decisions.

Academic achievement of students especially at the secondary school level is not only a pointer to the effectiveness or otherwise of schools but a major determinant of the future of youths in particular and the nation in general. The medium through which the attainment of individuals and the nation’s educational goals can be achieved is learning. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working hard to unravel factors that militate against good academic performance (Aremu & Sokan, 2002). This phenomenon has been variedly referred to in literature as academic achievement, or scholastic functioning. Academic achievement of learners has attracted attention of scholars, parents, policy –makers and planners.

In an attempt to put sound education on ground worldwide, many factors have been incriminated as being responsible for falling standard of education where it is perceived and established. Among such factors is the issues of ‘’class size’’ .Adeyemi (2008) defined class size as an educational tool that can be described as an average number of students per class in a school, while Hoffman (1980) described it as the number of students per teacher in a class. Kedney (1989) described it as a tool that can be used to measure performance of the education system. A lot of argument has gone on the impact of class size on performance, some fingering over-bloated class size as the main factor responsible for falling standard of education, most especially in the elementary or secondary level of education in Nigeria, however others see this as mere coincidence seeing other factors as being responsible.

Class size is an important factor with respect to academic performance of students. There is a consensus among researchers and educational scholars that, student’s achievement decreases as class size increases. The effect of class- size on cognitive achievement has been debated and researched for many years, this has been inconclusive. Class size refers to educational tools that can be used to describe the average number of students per class in a school. In emphasizing the importance of class-size to the learning teaching process, ALL Nigerian Conference of Principals of Secondary Schools (ANCOPSS) recommended a maximum of forty students per class for efficient and effective teaching.

**1.2 STATEMENT OF PROBLEM**

Schooling has multiple purposes, for instance, higher levels of schooling are associated with higher earnings and economic mobility, better health, lower mortality rates, and greater participation in the leadership process in one’s immediate and the global community. In an attempt to put sound education on ground worldwide, many factors have been incriminated as being responsible for falling standard of education where it is perceived and established. Among such factors is the issue of classroom size. Fabunmi,BraiAbu and Adeniyi (2007) pointed out that classroom congestion and low utilization rate of classrooms are common features of secondary schools in Nigeria. They have negative impact on both secondary school teacher productivity, student learning input and thus secondary school student academic performance.In particular, poor scholastic achievement can influence the reputation of a school because academic success is associated with the quality of the school. The alarming rate of failure in our secondary schools is highly embarrassing.

In view of the points above, the study focuses on classroom size as it correlates with academic performance of secondary school students in Nigeria

**1.3 OBJECTIVES OF THE STUDY**

The main aim of the study is to influence of classroom size on academic performance of secondary school students in Nigeria. Specific objectives of the study include:

* To investigate into the effect of classroom size on the educational performance of secondary school students.
* To determine the extent to which the group size affects the manner in which teaching and learning is mediated in secondary schools.
* To establish whether there is some kind of mechanism which can assist in establishing what determines a large, small or even optimum class size which strikes a balance between size and achievement.

**1.4 RESEARCH QUESTIONS**

For the purpose of this research work the following research questions have been formulated;

1. What relationship exists between class-size and the quality of output from secondary schools in Nigeria?

2. Is there any significant difference between the quality of output of students in schools having an average small class-sizes and the quality of output of students in schools having an average class-sizes in Nigeria?

3. What are the general attitudes and preferences of students in secondary schools regarding class size?

4. Is there significant scientific evidence to prove and convince legislators, school educators, parents and other major stake holders in the educational fraternity that class size makes a difference in student academic performance.

**1.5 RESEARCH HYPOTHESES**

The following hypotheses will be tested to guide this study;

* There will be no relationship between classroom size and secondary school academic performance
* There is no significant effect between classroom size and the academic performance of secondary school students in Nigeria.

**1.6 SIGNIFICANCE OF THE STUDY**

This study will be highly important to the government at all level, the parents, educational planners, decision and policy makers as well as other stakeholders in education. However, this study will help the public and private schools to know and ascertain the influence of class size on the students’ academic achievement, thereby making the stakeholders to develop appropriate strategies in solving the classroom overcrowding in the school and as well enhance the students academic performance.

The study will provide an insight understanding for the public and private schools to know the effect of Classroom size on the students’ academic achievement, thereby making the school stakeholders to develop appropriate measures of improving the school environment for the students in the schools.

Through this study, the students as well as the teachers will be able to know the effect of class size on the student’s academic achievement.

The class size as relates towards students academic achievement will enable the government and the general public to be aware of the effects of these factors and work towards better improvement.

It is important to note that findings in this study will also serve as a source of reference for other researchers who may want to conduct the same or similar study in other subjects or part of the country.

**1.8 LIMITATIONS OF STUDY**

1. Financial constraint- Insufficient fund tends to impede the efficiency of the researcher in sourcing for the relevant materials, literature or information and in the process of data collection (internet, questionnaire and interview).
2. Time constraint- The researcher will simultaneously engage in this study with other academic work. This consequently will cut down on the time devoted for the research work.

**1.9 DEFINITION OF TERMS**

**Achievement**

According to Black and William (1998:219) achievement is past oriented. It is based on a specific body of knowledge and it reveals areas of weakness, which can result in remedial action. Achievement can also reveal competence and such results can be used to predict future performance.

**Academic Performance**

This refers to the students’ achievement, scores within the class and his position relative to all those subjected the same test.

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

**2.1 INTRODUCTION**

This chapter gives an insight into various studies conducted by outstanding researchers, as well as explained terminologies with regards to the influence of classroom size on academic performance of secondary school students in Nigeria. The chapter also gives a resume of the history and present status of the problem delineated by a concise review of previous studies into closely related problems.

**2.2 THEORETICAL FRAMEWORK**

The existentialist philosophies of both Glasser and Kohn are the cornerstone of my belief system which states that we are the center of our experience the one who perceives, acts in and reflects on the world and who are internally motivated by everything we do. Teaching the tenets of this philosophy (Choice Theory) to my students would be one of the first pieces of instructions I would give them, bringing them to an awareness of their responsibility to make their own decisions about their learning and behavior in the classroom. My philosophy is based on Glasser’s “Choice Theory” which posits that students must have a choice, and that if they help choose their curriculum and decide on the rules in the classroom, they will then have ownership of their learning, have pride in their participation, will have higher self-esteem and will exhibit greater levels of self confidence and higher levels of cognition. This approach to classroom management creates a safe space to learn, as mainly it is their space--their classroom, they own it, they will decorate it and they will decide the rules. When this sense of ownership is established, they will come to class willingly and with enthusiasm because they want to be challenged.

Kohn’s theories on classroom management are quite similar to Glasser’s. Grades and praise, Kohn says, kills intrinsic motivation and the desire to learn, and this concept is, of course, antithetical to what we’ve always been taught. The punishment/praise grade system that we were all indoctrinated in explains why the system has failed so many students as the competition norms of most classrooms indicates that for every winner/top of the class, there will be thirty-nine losers dealing with the inherent self-esteem issues surrounding their constant failure.

A key component of Glasser’s theory is that the basic need of personal competence is an inner drive that is self-initiating and is unrelated to the need for extrinsic rewards of praise or grades. Glasser’s basic need of competence ties in perfectly with Kohn’s theory that extrinsic rewards destroy a student’s inherent intrinsic motivation by reducing the exchange to a demoralizing, manipulative dysfunctional exchange that reduces their natural interest in a subject. Unfortunately, the traditional appeal has always been to the students’ competitive instincts. Kohn states that extrinsic motivation focuses on what the students do not know, rather than on their possibilities for growth. We must question the traditional assumptions about pedagogy, as right answers are not as important as the process of exploring ideas and understanding the concepts. Helping students tap into and develop their inner authentic selves where they think, feel and care on a deeper level is our primary responsibility; arousing students’ interests in learning is another.

According to Kohn and Glasser, instead of focusing on grades and tests, we must help our students to reason, to comunicate, and help them develop social and personal responsibility, self-awareness and a capacity for leadership. Thinking deeply and critically should be the first goal of education, the second goal is the desire for more education and a lifelong affair with learning.

Kohn and Glasser’s theories are both non-coercive, but most importantly their theories are based on existentialist ideals of free choice and responsibility. Kounin’s theories, however, take a completely different approach, where his practical and hands-on philosophy proves to be an excellent addition to the holistic theories of Kohn and Glasser. Kounin’s management style addresses the fundamentals of classroom theory in concrete language and states that students must be made aware of all expectations, then, if these expectations are not met, some form of desist strategy is required. Kounin’s pragmatic and practical approach blends nicely with the existentialist philosophy of Kohn and Glasser, resulting in the perfect approach to classroom management. Kounin has determined that the mastery of classroom management must include a display of “with-it-ness”, the ability to teach to the learning style of the group instead of the individual, and organizing of lessons and teaching methods. The goal of classroom management is to create an environment which not only stimulates student learning but also motivates students to learn. Kounin’s approach is in line with both Glasser and Kohn as he also posits that the keys to successful classroom management is in preventing management problems from occurring in the first place by putting into place good organization and planning.

**2.3 THE CONCEPT OF ACADEMIC PERFORMANCE**

Students' learning can be evaluated in many different ways, but in a developing country like Nigeria where about 40 percent of the adult population are illiterate, parents use the performance of their children in public examinations to pass judgement on the schools and teachers. To them, the logic is a simple one. The schools are supposed to be staffed by good teachers and supplied adequate facilities and instrumental materials. It is the responsibility of government to ensure through such provisions and regular inspection or supervision that effective teaching and learning go on in the schools. The task of parents is to send children to school and pay whatever fees and levies are charged by the institutions. Though many parents acknowledge shortages of funds, teachers and infrastructures in the schools and their own inability to buy all

the required books and other learning materials for their wards, yet they strongly believe that if the students perform badly in their examinations, the teachers and administrators have not done their job well and should take most of the blame.

Unfortunately, there are many factors that help to determine the academic performance of students. However, the level of education and awareness of many parents does not enable them to participate in such complex theoretical arguments or discussions. For such parents and the general public, the students' performances in recent times give cause for ala-m and school authorities more than the students themselves are being accused of lack of dedication, declining productivity and even mindlessness. Nevertheless, the students have not been doing well, and the situation is not improving.

**2.3.1 The Concept of Poor Academic Performance**

Poor academic performance accord to Aremu (2000) is a performance that is adjudged by the examinee/testee and some other significant as falling below an expected standard. The interpretation of this expected or desired standard is better appreciated from the perpetual cognitive ability of the evaluator of the performance. The evaluator or assessor can therefore give different interpretations depending on some factors.

Bakare (2004) described poor academic performance as any performance that falls below a desired standard. The criteria of excellence can be from 40 to 100 depending on the subjective yardstick of the evaluator or assessor. For example, a 70% performance of University Students in an exam can judged to be an excellent performance and by all standard a very good performance. However, a cursory look at the performance and the individual examined and the standard of the examination he or she took could reveal that the performance is a very poor one. On the other hand, a Level 200 Accounting student’s performance of 37% in business mathematics can e said to be a poor performance. When in actual fact, the performance is by all standards a very good one. This shows that the concept of poor academic performance is very relative and this depends on so many intervening variables.

**2.3.3 Factors That Affect Academic Performance of Students**

A number of studies have been carried out to identify and analyse the numerous factors that affect academic performance in various centres of learning. Their findings identify students’ effort, previous schooling (Siegfried & Fels, 1979; Anderson & Benjamin, 1994), parents’ education, family income (Devadoss & Foltz, 1996), self motivation, age of student, learning preferences (Aripin, Mahmood, Rohaizad, Yeop, & Anuar, 2008), class attendance (Romer, 1993), and entry qualifications as factors that have a significant effect on the students’ academic performance in various settings. The utility of these studies lies in the need to undertake corrective measures that improve the academic performance of students, especially in public funded institutions. The throughput of public-funded institutions is under scrutiny especially because of the current global economic downturn which demands that governments improve efficiency in financial resource allocation and utilization.

***2.3.3.1 Students’ learning preferences***

A good match between students’ learning preferences and instructor’s teaching style has been demonstrated to have positive effect on student's performance (Harb & El-Shaarawi, 2006). According to Reid (1995), learning preference refers to a person’s “natural, habitual and preferred way” of assimilating new information.

This implies that individuals differ in regard to what mode of instruction or study is most effective for them. Scholars, who promote the learning preferences approach to learning, agree that effective instruction can only be undertaken if the learner’s learning preferences are diagnosed and the instruction is tailored accordingly (Pashler, McDaniel, Rohrer, & Bjork, 2008). “I hear and I forget. I see and I remember. I do and I understand.” (Confucius 551-479 BC) – a quote that provides evidence that, even in early times, there was a recognition of the existence of different learning preferences among people. Indeed, Omrod (2008) reports that some students seem to learn better when information is presented through words (verbal learners), whereas others seem to learn better when it is presented in the form of pictures (visual learners). Clearly in a class where only one instructional method is employed, there is a strong possibility that a number of students will find the learning environment less optimal and this could affect their academic performance. Felder (1993) established that alignment between students’ learning preferences and an instructor’s teaching style leads to better recall and understanding. The learning preferences approach has gained significant mileage despite the lack of experimental evidence to support the utility of this approach.

There are a number of methods used to assess the learning preferences/styles of students but they all typically ask students to evaluate the kind of information presentation they are most at ease with.

**2.4 THE CONCEPT OF CLASS SIZE**

**Class size** refers to the number of students in a given course or classroom, specifically either the number of students being taught by individual teachers in a course or classroom or the average number of students being taught by teachers in a school, district, or [education system](http://edglossary.org/education-system/" \t "_blank" \o "Education System). The term may also extend to the number of students participating in [learning experiences](http://edglossary.org/learning-experience/" \t "_blank" \o "Learning Experience) that may not take place in a traditional classroom setting, or it may also refer to the total number of students in a particular grade level or “class” in a school (although this usage is less common in public education).

It should be noted that schools, districts, and state and federal education agencies commonly track and report “average class sizes.” While average class sizes are commonly expressed as a ratio of students to teachers, a “student-teacher ratio” is usually different than average class size.

**2.4.1 The Role of Teacher in Classroom Management**

Teachers play various roles in a typical classroom, but surely one of the most important is the management of their students during lessons. This is so because effective teaching and learning cannot take place in a poorly managed classroom characterize with disorderliness and disrespectfulness, with no apparent rules and procedures guiding behaviour.

In such situations, both teachers and students suffer. Teachers struggle to teach and students likely learn less than they should. In contrast, well-managed classrooms provide an environment which teaching and learning can flourish. But a well-managed classroom doesn’t just appear out of the blue, it takes a good deal of effort to cerate and the person who is responsible for creating it, need a lot of experience (Sanders, 2007).

However, Wright (2009) opined that the general role of teacher in class management include the establishment and the enforcement rules and procedures in classrooms; the teacher is also responsible for disciplinary interventions; the teacher also establish teacher-student relationship as well as maintaining decorum in the classrooms (Lawal, 2007).

**2.5 EMPIRICAL REVIEW**

Student–teacher ratio is the number of students who attend a school or university divided by the number of teachers in the institution. For example, a student–teacher ratio of 10:1 indicates that there are 10 students for every one teacher. The term can also be reversed to create a teacher–student ratio.

Bayo (2005) opined that smaller classes benefit all pupils because of individual attention from teachers, but low-attaining pupil’s benefit more at the secondary school level. Pupils in large classes drift off task because of too much instruction from the teacher to the whole class instead of individual attention, and low-attaining students are most affected. Students benefit in later grades from being in small classes during early grades.

Longer periods in small classes resulted in more increases in achievement in later grades for all students. In reading and science, low achievers benefit more from being in small classes. The benefits of small class sizes reduce the student achievement gap in reading and science in later grades.

The ratio of students to teaching staff compares the number of students (in full-time equivalent) to the number of teachers (in full-time equivalent) at a given level of Education and similar types of institutions.

However, this ratio does not take into account the amount of instruction time for student compared to the length of a teacher’s working day, nor how much time spend teaching. It therefore cannot be interpreted in terms of class size.

Pupil-teacher ratio, primary in Nigeria was 36.03 as of 2010. Its highest value over the past 40 years was 46.09 in 2007, while its lowest value was 33.88 in 1975. Primary school pupil-teacher ratio is the number of pupils enrolled in primary school divided by the number of primary school teachers (regardless of their teaching assignment). Pupil-teacher ratio, primary in Nigeria was 36.03 as of 2010. Its highest value over the past 40 years was 46.09 in 2007, while its lowest value was 33.88 in 1975.

Primary school pupil-teacher ratio is the number of pupils enrolled in primary school divided by the number of primary school teachers (regardless of their teaching assignment).

Classes with too many students are often disrupting to education. Also, too many students in a class results in a diverse field of students, with varying degrees of learning ability. Consequently, the class will spend time for less academic students to assimilate the information, when that time could be better spent progressing through the curriculum. In this way, student–teacher ratios are compelling arguments for advanced or honors classes. Numerous sources argue that lower student to teacher ratios are better at teaching students complex subjects such as physics, mathematics and chemistry, than those with a higher ratio of students to teachers.

Commonly the schools with lower student to teacher ratios are more exclusive, have a higher attendance of whites, and are in non-inner urban areas and/or fee-paying (non-government) institutions.

Many analysts have found that extra school resources play a negligible role in improving student achievement while children are in school. Yet many economists have gathered data showing that students who attend well-endowed schools grow up to enjoy better job market success than children whose education takes place in schools where resources are limited. For example, children who attend schools with a lower pupil teacher ratio and a better educated teaching staff appear to earn higher wages as adults than children who attend poorer schools.

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According to Webster Dictionary (2005), quality is the characteristics of anything regarded as determining its value, worth, rank or position. Assurance on the other hand connotes “to make sure, secure, guarantee or make certain’’. Quality assurance therefore implies making sure that the value or worth of anything or service(s) is secured, guaranteed or maintained. Fergabaum in Nwagbara (2008) opines that the word quality is often used to signify excellence of a product, service or action. He asserts that quality is the totality of features and characteristics of a product or services that bear on its ability to satisfy stated or implied needs. It is therefore the ability of such products or services to meet the expectation of the recipient or users. This of course involves

Quality Control”, which is the regular process through which products, services and quality performance are measured. Longman (1990) defined quality assurance as all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality. This implies meeting or even surpassing the minimum standards set by appropriate authority.

Quality assurance is regarded as a process and practice primarily concerned with conformance to mission specification and goal achievement within the publicly accepted standards of excellence (Okereke, 2008). It is a strategy for ensuring quality in the school system (Ololobou, 2008). According to Vlasceanu, Grunbery and Parlea (2004), quality assurance refers to an aggregate of actions and measures taken regularly to assure the quality of education products, services, or processes, with an emphasis on assuring that a prescribed threshold of quality is met. Quality assurance means putting in place appropriate structures, legislations, supervision of personnel and materials in order to ensure that set minimum standards are attained, sustained and seen to have meaningful impact on society. Quality assurance is important because it ensures that goods and services produced in a country are of the highest possible standard, as well as protecting buyers from purchasing sub-standard products (Uya, 2008). According to Oriaife in Maduewesi (2005), quality assurance is a baseline standard in education which can be measured on a scale of reference. It is an expression of standard or a means by which a certain set standard in education can be achieved.

It could easily be deduced therefore that quality assurance in education is a totality of the combination of such indispensable variables as quality teachers, quality instructional materials and quality infrastructure (classrooms, seats, tables, chalkboards etc). Others include; favourable teacher/pupils ratio, favourable pupils/classroom ratio and quality instructional supervision. All these and more surely results to quality product (student) who is exposed to a balanced and result oriented education, especially secondary education. He is well prepared to face not just the challenges of tertiary education, but the challenge of providing middle level technical and administrative service in any sector of the Nigerian economy.

STAR project in Tennessee was conducted on the class size effect. It was a longitudinal study (1985-1989) of math and reading achievement. The study included 6,829 K-3 students as the sample of the study.

Students and teachers were randomly assigned to the classes of different sizes from Kindergarten to Class III.

Then students were randomly assigned to smaller and larger classes (Word et al., 1990). STAR recommended the positive achievement effect of small class size during the lower classes or early school years. However, there was no evidence about the class size effects in the later or higher classes.

Many other studies analyzed the STAR data and drew conclusions. According to Mosteller (1995), the effect of class size on student achievement is very large in the STAR project experiment.

Likewise, students out performed in the small classes in the regular and the regular with aid classes by a great margin. However, the students carried out and continued their better performance after returning to the regular classes. Their performance was better than those students who remained in a regular class size with or without a teacher’s aid. Similarly, Krueger (1999) analyzed the STAR project experiment and found that smaller class size positively affected the standardized test scores. With the passage of time, this effect increased.

However, this effect was larger for the beneficiaries of the free lunch program and the minority students. Similarly, Nye, Hedges, & Konstantopoulos (1999) concluded that the benefits of small classes remained significant for at least five years after the students enter regular classrooms.

Mitchell and Davidson (1989) developed six models and six theories of how class size affects student achievement. Three of them emphasize on a direct correlation between larger class size and declining achievement test scores. Furthermore, these theories are “Greater Instructional Overhead,” “Increased Student

Interaction Time” and “Decreased Access to Fixed Instructional”. These theories suggest that addition of more students to a class lessens the teacher effectiveness. However, the other three theories emphasize that the correlation between more students and the altered classroom performance is indirect.

These theories are “Class Heterogeneity,” “Instructional pacing” and “Student Grouping or Achievement Modeling”. There are some other factors rather than the number of students; those are the causes

for effects. These factors are associated with the student assigning to large and small class sizes.

Furthermore, Angrist and Lavy (1999) used a regression discontinuity design to analyze the effect of class size on student achievement. The class sizes was determined by the “Maimonides’ rule” in Israel.

According to that rule, the maximum class size is 40. Two classes are automatically created if the total enrollment is greater than 40. Likewise, there will be three classes if the numbers of students are greater than 80 and so on. The researchers exploited these irregular changes. This study found that class size has a positive and significant effect on student achievement in Reading comprehension and mathematics. Some researchers exposed that students in the large classes desired to spend less time on class assignments (Blatchford & Mortimore, 1994; Klein, 1985). However, students in smaller classes desired to participate more time in addition to spending more time on schoolwork.

Oliver & Said-Moshiro (2007) described that large class size is an inevitable feature of the developing countries.

Furthermore, Finn (2003) concluded that the students became occupied in the small class size, both academically and socially. Therefore, their strong engagement caused academic achievement improved.

Similarly, Lindahl (2005) found the significant effects of smaller class sizes on student achievement. The study examined the effect of class size in natural variation by using longitudinal approach. The teaching and learning process in the developing countries is substandard; this is the key and real issue.

However, this process can be improved by enhancing the capability of teachers and school leaders to handle this setting and identifying ways for students to be successful (Benbow, Mizrachi, Oliver & Said-Moshiro (2007).

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**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**3.1 INTRODUCTION**

This chapter describes methods and procedures used in conducting this research work. The description of the procedure is done under the following headings:

* Research design,
* Area of study
* Population of the study
* Sample and sampling procedure
* Instrumentation
* Procedure for data collection
* Procedure for data analysis

**3.2 RESEARCH DESIGN**

The surveys research method was used for this study. This was considered appropriate because survey design generally can be used to effectively investigate problems in realistic settings. The survey technique will also allow the researcher to examine several variables and use multi-variate statistics to analyze data.

**3.3 AREA OF THE STUDY**

The study was conducted in Akwa Ibom State, Nigeria. Akwa ibom is the most beautiful cities in [Nigeria](https://en.wikipedia.org/wiki/Nigeria" \o "Nigeria). The population of Akwa Ibom State, according to the Akwa Ibom State Government is 9.5 million, a number disputed by the [Nigerian Government](https://en.wikipedia.org/wiki/Politics_of_Nigeria" \o "Politics of Nigeria) and judged unreliable by the National Population Commission of Nigeria. The study was carried out Champion Breweries plc Uyo Akwa Ibom State.

**3.4 POPULATION OF THE STUDY**

The population consists of the entire staff of Champion Secondary school Uyo Akwa Ibom State. With a staff strength of 100 employees (personnel dept, 2015).

**3.5 SAMPLE SIZE AND SAMPLING TECHNIQUES**

Out of the population of 100 persons in Champion Secondary School, 50 persons were selected using the simple random sampling (srs) technique. The logic behind this is in conformity with the views of Okoh (2005) in his book, the principles of educational research. He opined that for any population below 100 persons or object at least more than 50% of the population is adopted as its sample to enhance effective representation so that conclusions from the study can be generalized.

**3.6 RESEARCH INSTRUMENT**

The major instrument used for this study is the questionnaire. The questionnaire was structured in a five-like scale measuring attitude of Strongly Agreed, Agreed, Undecided, Disagree and Strongly Disagreed.

**3.7 VALIDITY OF THE INSTRUMENT**

In order to obtain the validity of the instrument, the supervisor of this research was requested to judge the appropriateness, comprehensiveness and clarity of items in the questionnaire.

**3.8 RELIABILITY OF THE INSTRUMENT**

A pilot study was conducted on ten staff champion breweries to pre-test the efficacy of the questionnaire. The feedback received was used in the final draft which enhances it reliability.

**3.9 METHOD OF DATA COLLECTION**

The researcher personally collected data from the respondents through the help of the human resource manager. After distribution of the questionnaire, respondents were given three days to fill out the questionnaire. This time frame was given in order to give enough time to the respondents to reflect on the items on the questionnaire to facilitate valid responses.

**3.10 METHOD OF DATA ANALYSIS**

Data analysis has been defined as those techniques used whereby the researcher extracts relevant information from the data which would enable a summary description of the subject studies to be made.

In analyzing the data collected for the purpose of carrying out this research, the statistical tool known as the Pearson Product Moment Correlation (PPC) and the statistics were used. The use of sample percentage was also employed. Tables were used in presenting the data for the purpose of the simplicity and clarity. The Pearson Product Moment Correlation (PPC) technique can be expressed by the formula below:

r = n£ X y - £ X y

[n£x2 – (£x) 2] [n£y2 – (£y) 2]

Where x = independent factor

y = dependent factor

Since the research instrument used was the questionnaire, it was designed using the five likescale method. The questionnaire was designed in the following ways:

1. Strongly Agreed (SA) - 5
2. Agreed (A) - 4
3. Undecided (U) - 3
4. Disagreed (D) - 2
5. Strongly Disagreed (SD) - 1

**DECISION RULE**

In taking decision for “r”, the following rules shall be observed;

1. If the value of “r” tabulated is greater than “r” calculated, accept the alternative hypothesis (H1) and .reject the null hypothesis (H0).
2. If the “r” calculated is greater than the “r” tabulated, accept the null hypothesis (H0) while the alternative hypothesis is rejected.

**CHAPTER FOUR**

**DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

This chapter is devoted to the presentation, analysis and interpretation of the data gathered in the course of this study. The data are based on the number of copies of the questionnaire completed and returned by the respondents. The data are presented in tables and the analysis is done using t-Test. The Pearson’s Product Moment Correlation co-efficient was used in the validation of hypotheses.

**4.1 Data Presentation and Analysis**

The data presented below were gathered during field work:

**QUESTIONNAIRE ADMINISTRATION**

**INSTRUCTION:** Please endeavor to complete the questionnaire by ticking the correct answer(s) from the options or supply the information required where necessary.

**SECTION A:** personal information/Data

1. Gender
2. Male
3. Female
4. Age range
5. 10-15
6. 16-20
7. 21-30
8. 41-50
9. Above 50
10. Educational qualification
11. PSLC
12. WASSCE/GCE/NECO
13. OND/HND/BSC/NCE
14. MSC/PGD/PHD
15. Others
16. Marital status
17. Single
18. Married
19. Divorced
20. Widowed
21. Years of experience in teaching.
22. 0-2yrs
23. 3-5yrs
24. 6-8yrs
25. 9-11yrs
26. Above 11yrs

**SECTION B**

Questions on the influence of class room size on Academic performance of secondary school students.

1. Academic performance of students has nothing to do with class sizes
2. Strongly agreed
3. Agreed
4. undecided
5. disagreed
6. strongly disagreed
7. Students in smaller class sizes perform better than students in overcrowded classes.
8. Strongly agreed
9. Agreed
10. undecided
11. disagreed
12. strongly disagreed
13. Teachers give their best to students in smaller class sizes than those in overcrowded classes.
14. Strongly agreed
15. Agreed
16. undecided
17. disagreed
18. strongly disagreed
19. Students in smaller class sizes concentrate in class than those in large class sizes
20. Strongly agreed
21. Agreed
22. undecided
23. disagreed
24. strongly disagreed
25. students in overcrowded classes are prone to performing poorly academically
26. Strongly agreed
27. Agreed
28. undecided
29. disagreed
30. strongly disagreed
31. There is a relationship between classroom size and the academic performance of secondary school students in Nigeria
32. Strongly agreed
33. Agreed
34. undecided
35. disagreed
36. strongly disagreed

**Bio data of respondents**

| **Table 1 gender of respondents** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | male | 30 | 60.0 | 60.0 | 60.0 |
| female | 20 | 40.0 | 40.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table1 above shows the gender distribution of the respondents used for this study.

Out of the total number of 50 respondents, 30respondents which represent 60.0percent of the population are male.

20 which represent 40.0 percent of the population are female.

| **Table 2 age range of respondents** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 10-15 years | 5 | 10.0 | 10.0 | 10.0 |
| 16-20 years | 5 | 10.0 | 10.0 | 20.0 |
| 21-30 years | 10 | 20.0 | 20.0 | 40.0 |
| 31-40 years | 15 | 30.0 | 30.0 | 70.0 |
| 41-50 years | 13 | 26.0 | 26.0 | 96.0 |
| above 50 years | 2 | 4.0 | 4.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 2 above shows the age grade of the respondents used for this study.

5 respondents which represent 10.0percent of the population are between 10-15years.

5respondents which represent 10.0percent of the population are between 16-20years.

10 respondents which represent 20.0percent of the population are between 21-30years

15 respondents which represent 30.0percent of the population are between 31-40years.

13 respondents which represent 26.0percent of the population are between 41-50years.

2 respondents which represent 4.0percent of the population are above 50 years.

| **Table 3 educational background of respondents** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | PSLC | 5 | 10.0 | 10.0 | 10.0 |
| OND/NCE/HND/BSC | 32 | 64.0 | 64.0 | 74.0 |
| MSC/PGD/PHD | 10 | 20.0 | 20.0 | 94.0 |
| OTHERS | 3 | 6.0 | 6.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 3 above shows the educational background of the respondents used for this study.

5 respondents which represent 10.0 percent of the population are FSLC holders.

There were no WASSCE/NECO/GCE holders.

32 which represent 64.0 percent of the population are OND/NCE/HND/BSC holders.

10 which represent 20.0 percent of the population are MSC/PGD/PHD holders

3 which represent 6 percent of the population had other type of certificate.

| **Table 4 marital status of respondents** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Single | 20 | 40.0 | 40.0 | 40.0 |
| married | 26 | 52.0 | 52.0 | 92.0 |
| divorced | 3 | 6.0 | 6.0 | 98.0 |
| widowed | 1 | 2.0 | 2.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 4 above shows the marital status of the respondents used for this study.

20 respondents which represent 40 percent of the population are single.

26 respondents which represent 52.0percent of the population are married.

3 respondents which represent 6.0percent of the population are divorced.

3 respondents which represent 6.0percent of the population are divorced.

1 respondent which represent 2.0percent of the population is widowed.

**Tables based on research questions**

| **Table 5 years of experience in teaching** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 0-2 years | 13 | 26.0 | 26.0 | 26.0 |
| 3-5 years | 20 | 40.0 | 40.0 | 66.0 |
| 6-8 years | 7 | 14.0 | 14.0 | 80.0 |
| 9-11 years | 5 | 10.0 | 10.0 | 90.0 |
| above 11 years | 5 | 10.0 | 10.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 5 above shows the years of experience of the respondents used for this study.

Out of the 50 respondents, 13 which represent 26.0percent of the population have 0-2years experience in teaching.

20 respondents which represent 40.0percent of the population have 3-5years experience in teaching.

7 respondents which represent 14.0percent of the population have 6-8years experience in teaching.

5 respondents which represent 14.0percent of the population have 9-11years experience in teaching.

5 respondents which represent 14.0percent of the population have over 11years experience in teaching.

| **Table 6 academic performance has nothing to do with class size** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | strongly agree | 5 | 10.0 | 10.0 | 10.0 |
| agree | 4 | 8.0 | 8.0 | 18.0 |
| undecided | 5 | 10.0 | 10.0 | 28.0 |
| disagree | 10 | 20.0 | 20.0 | 48.0 |
| strongly disagree | 26 | 52.0 | 52.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 6 shows the responses of respondents that academic performance of students has nothing to do with class size.

5 of the respondents representing 10.0percent strongly agree that academic performance of students has nothing to do with class size.

4 of the respondents representing 8.0percent agree that academic performance of students has nothing to do with class size.

5 of them representing 10.0percent were undecided.

10 of the respondents representing 20.0percent disagree that academic performance of students has nothing to do with class size.

26 of the respondents representing 52.0percent disagree that academic performance of students has nothing to do with class size.

| **Table 7 students in smaller classes perform better than students in overcrowded classes** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | strongly agree | 15 | 30.0 | 30.0 | 30.0 |
| agree | 16 | 32.0 | 32.0 | 62.0 |
| undecided | 9 | 18.0 | 18.0 | 80.0 |
| disagree | 5 | 10.0 | 10.0 | 90.0 |
| strongly disagree | 5 | 10.0 | 10.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 7 shows the responses of respondents that students in smaller classes perform academically better than students in overcrowded classes.

15 of the respondents representing 30.0 percent strongly agree that students in smaller classes perform academically better than students in overcrowded classes.

16 of the respondents representing 32.0 percent agree that students in smaller classes perform academically better than students in overcrowded classes.

9 respondents representing 18.0 percent were undecided.

5 of the respondents representing 10.0 percent disagree that students in smaller classes perform academically better than students in overcrowded classes.

5 of the respondents representing 10.0 percent strongly disagree that students in smaller classes perform academically better than students in overcrowded classes.

| **Table 8 students concentrate more in small classes than in overcrowded classrooms** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | strongly agree | 35 | 70.0 | 70.0 | 70.0 |
| agree | 10 | 20.0 | 20.0 | 90.0 |
| undecided | 3 | 6.0 | 6.0 | 96.0 |
| disagree | 2 | 4.0 | 4.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 8 shows the responses of respondents that students concentrate more during classes in small classes than in overcrowded classes.

35 of the respondents representing 70.0 percent strongly agree that students concentrate more during classes in small classes than in overcrowded classes.

10 of the respondents representing 20.0 percent agree that students concentrate more during classes in small classes than in overcrowded classes.

3 respondents representing 6percent were undecided.

2 of the respondents representing 4.0 percent disagree that students concentrate more during classes in small classes than in overcrowded classes.

| **Table 9 students in overcrowded classrooms are prone to poor performance** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | strongly agree | 20 | 40.0 | 40.0 | 40.0 |
| agree | 15 | 30.0 | 30.0 | 70.0 |
| disagree | 10 | 20.0 | 20.0 | 90.0 |
| strongly disagree | 5 | 10.0 | 10.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 9 shows the responses of respondents that students in overcrowded classrooms are prone to poor academic performance.

20 of the respondents representing 40.0 percent strongly agree that students in overcrowded classrooms are prone to poor academic performance.

15 of the respondents representing 30.0 percent agree that students in overcrowded classrooms are prone to poor academic performance.

10 of the respondents representing 20.0 percent disagree that students in overcrowded classrooms are prone to poor academic performance.

5 of the respondents representing 10.0 percent strongly disagree that students in overcrowded classrooms are prone to poor academic performance.

| **Table 10 there is a relationship between class sizes and academic performance of sec. schools** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | strongly agree | 19 | 38.0 | 38.0 | 38.0 |
| agree | 20 | 40.0 | 40.0 | 78.0 |
| undecided | 1 | 2.0 | 2.0 | 80.0 |
| disagree | 2 | 4.0 | 4.0 | 84.0 |
| strongly disagree | 8 | 16.0 | 16.0 | 100.0 |
| Total | 50 | 100.0 | 100.0 |  |

Source: field survey, August, 2015.

Table 10 shows the responses of respondents that there is a relationship between class size and academic performance of secondary schools.

19 of the respondents representing 38.0 percent strongly agree that there is a relationship between class size and academic performance of secondary schools.

20 of the respondents representing 40.0 percent agree that there is a relationship between class size and academic performance of secondary schools.

1 respondent representing 2.0percent was undecided.

2 of the respondents representing 4.0 percent disagree that there is a relationship between class size and academic performance of secondary schools.

8 of the respondents representing 16.0 percent strongly disagree that there is a relationship between class size and academic performance of secondary schools.

**HYPOTHESIS TO BE TESTED**

**Hypothesis 1**

**H0:** there is no relationship between classroom size and secondary school academic performance.

**H1:** there is a relationship between classroom size and secondary school academic performance.

**Level of significance:** 0.05

**Decision rule:**

In taking decision for “r”, the following rules shall be observed;

1. If the value of “r” tabulated is greater than “r” calculated, accept the alternative hypothesis (H1) and .reject the null hypothesis (H0).
2. If the “r” calculated is greater than the “r” tabulated, accept the null hypothesis (H0) while the alternative hypothesis is rejected.

| **Table 11 Correlations** | | | |
| --- | --- | --- | --- |
|  |  | there is a relationship between class sizes and academic performance of sec. schools | students in smaller classes perform better than students in overcrowded classes |
| there is a relationship between class sizes and academic performance of sec. schools | Pearson Correlation | 1 | **.929\*\*** |
| Sig. (2-tailed) |  | **.000** |
| N | 50 | 50 |
| students in smaller classes perform better than students in overcrowded classes | Pearson Correlation | **.929\*\*** | 1 |
| Sig. (2-tailed) | **.000** |  |
| N | 50 | 50 |
| \*\*. Correlation is significant at the 0.05 level (2-tailed). | | |  |

**Conclusions based on table 11**

From the above table, “r” calculated 0.000 being less than the “r” tabulated; we reject the null hypothesis and conclude that there is a relationship between class sizes and academic performance in secondary schools.

The nature of the relationship between class sizes and academic performance in secondary schools is very strong (0.929) and positive. This simply means that the more overcrowded class rooms are, the more likely students would perform poorly academically.

**Hypothesis 2**

**H0:** There is no significant effect between class size and the academic performance of secondary school students in Nigeria.

**H1:** There is significant effect between class size and the academic performance of secondary school students in Nigeria.

**Level of significance:** 0.05

**Decision rule:** reject the null hypothesis if the p value is less than the level of significance. Accept the null hypothesis if otherwise.

| **ANOVA** | | | | | |
| --- | --- | --- | --- | --- | --- |
| there is a relationship between class sizes and academic performance of sec. schools | | | | | |
|  | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 46.846 | 4 | 11.712 | 10.303 | **.000** |
| Within Groups | 51.154 | 45 | 1.137 |  |  |
| Total | 98.000 | 49 |  |  |  |

**Conclusions:**

Since the p value (0.000) is less than the level of significance (0.05) we reject the null hypothesis and conclude that there is significant effect between class size and the academic performance of secondary school students in Nigeria.

**CHAPTER FIVE**

**FINDINGS, CONCLUSION AND RECOMMENDATION**

Findings

The objectives of the study was to know if there is a relationship between class sizes and academic performance of secondary schools and to equally know if there is a significant effect between class room size and the academic performance of secondary schools in Nigeria.

Findings from the study showed the following:

1. That there is a strong and positive relationship between class room sizes and academic performance in secondary school academic performance.
2. That there is a significant effect between the classroom size and the academic performance of secondary school students in Nigeria.

**Conclusion**

Since we have concluded that class size affects students academic performance in secondary schools, academic performance of students should be enhanced by reducing class sizes across government schools so that our education sector can improve.

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