A SURVEY OF CLASS SIZE, SCHOOL LOCATION AND PERFORMANCE OF GEOGRAPHY STUDENTS OF SENIOR SECONDARY SCHOOLS IN BOSSO LOCAL GOVERNMENT AREA, IN MINNA.

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2014/1/49715BE

PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR AWARD OF THE DEGREE OF BACHELOR OF TECHNOLOGY (B.TECH) IN SCIENCE EDUCATION

TO

DEPARTMENT OF SCIENCE EDUCATION

SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

NIGER STATE

AUGUST, 2021

ABSTRACT

The study looked at the location and class size of schools as it relates to academic performance of students in Bosso Local government Area in Minna Niger State of Nigeria between 2018 and 2021. The study population was results of their termly exams conducted between 2018 and 2021 in 6 selected secondary schools in both rural and urban areas of the local government. Two hypotheses was formulated and answered. Chi-Square test and descriptive statistics of percentage was used to analyse data collected and hypothesis formulated. The results showed the p-values of advisory scales (0.05) are less than 5% are less than 5% level of significance level (0.05), the null hypothesis. There is no significant relationship between class size and student performance is therefore rejected, while the alternative hypothesis is accepted in other words, the study accepts the alternative hypothesis and rejects the null hypothesis and the P-values of advisory scales (0.05) are less than 5% level significance level (0.05), the null hypothesis There is no significant relationship between School location and student performance is therefore rejected, while alternative hypothesis is accepted. In other words, the study accepts the alternative hypothesis and rejects the null hypothesis. The study has proven that Academic performance of students is significantly influenced by their class size with smaller classes performing better than their equivalent in the larger classes and Location of school has significant influence on the student's academic performance with the schools located in rural areas recording lower grades than their equivalent in the urban areas. It recommended the results of the influence of class size on the academic performance of secondary schools students, and the facts that small classes have some advantages; it is recommended that schools should stick to the 40:1 students – teacher ratio as stipulated by the National Policy on Education. Class management and control is easier to achieve in a smaller class which goes a long way to determine the outcome of the learning and Class size require more facilities, therefore stakeholders should endeavor to provide required facilities and instructional materials for the teaching and learning the schools.

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CHAPTER ONE

INTRODUCTION

1.2 Background to the study

The search for the substantial achievement impact of reducing class size is one of the oldest and most frustrating concepts for educational researchers. Despite the search now approaching the end of its first century; it may rival the search for the Holy Grail in both duration and lack of results. The econometric evidence inherent in the literature examined by the researcher such as the study which was named project STAR, (Student/Teacher Achievement Ratio) and the other which was named SAGE, (Student Achievement Guarantee in Education) referred to in greater detail below seem to point at one conclusion. There is little reason to believe that smaller class sizes systematically yield higher student achievement. While some studies point in that direction, an almost equal number of studies point almost in the opposite direction. Students themselves tend to have divided opinions. The contending literature reports suggest that students say they get more out of a course when the class size is small yet practical experience in an enrolment survey conducted at Harvard suggests that many students are drawn to and choose large-enrollment courses and that the staggering numbers seem to be a pull factor to students. Given the seemingly tug of war in terms of available literature, the researcher felt the over-powering urge to explore the topic further and delve deeper into issues regarding the link between class size and academic achievement, if at all such a link exists.

According to Chilles, Cam, Nye, Zachariah, and Fulton, random experiments like the (STAR) project have shown the benefits of smaller class sizes. The research was

conducted in 79 elementary schools in Tennessee. The STAR was a four-year longitudinal class size study funded by the Tennessee general assembly and conducted by the state department of education. Over 7,000 students in 79 schools were randomly assigned into one of three interventions: small class (13 to 17 students per teacher), regular class (22 to 25 students per teacher), and regular-with aide class (22 to 25 students with a full-time teacher's aide). Classroom teachers were also randomly assigned to the classes they would teach. The interventions were initiated as the students entered school. The Tennessee's STAR project and SAGE assigned children to small or regular-size classes, as well as large-scale analyses of small and large classrooms that have occurred naturally. Although researchers may quibble over the exact magnitude of gains associated with smaller classes or the means by which small classes bring about such gains, few of them such as Glass, Cahen and Smith (2012) and Slavin disagree with the basic fact that smaller classes result in higher average achievement. By reducing elementary school classes from 23 students to 15 in the STAR project, achievement, as measured by standardized exams like the Stanford achievement test increased about 7% on average. This achievement test is a common measure of student performance used in the United States of America in the elementary stages to measure basic literacy and numeracy. It was also noted that the longer students are in smaller classes, the greater their achievement level is. In the STAR report, the authors contend that smaller classes could actually widen the achievement gap between haves and have-nots if properly harnessed. The introduction serves to wet our appetite regarding the issue of class size and achievement and as we delve deeper into the topic, further problems are explored in the next section. Although, class size is seen as one variable in the complex culture of

school life; other related factor like the school location must be considered. School location describes the school psychological environment or what others refer as school ethos, school cultures or the school climate. The school psychological environment could be seen from two perspectives: the goal and relationship dimensions. There is increasing evidence that the students' perception of achievement goal structures both within the classroom and the school generally are related to their selfperception and use of effective learning strategies.

Onuoha (2011) noted that school location is one of the potent factors that influence the distribution of educational resources and academic achievement. In addition, Frederick (2011) views school location as one of the major factors that influence students' academic achievement in some subject areas. It was also noted that many parents look at factor such as the location of schools (urban or rural) and the distance to the school before enrolling their wards. Schools are basically located in rural and urban areas. The school environment seems to affect the behaviour and development of both the students and teachers who function within it. Teachers are essential in the entire educational system of any nation and are pivots on which education wheels revolve. Ashimole (2011) emphasized that teaching and learning depends largely on teachers, and that it is on teachers' foremost quality (experience) and devotion that the effectiveness of all educational arrangements, development and growth hinged. Teaching experience is predominately the professional knowledge gathered in the course practice over the years. This knowledge according to Eggen and Kauchak can be grouped into the knowledge of content; pedagogical content knowledge; and general pedagogical knowledge.

Rivkin and Kain (2003) cited in Omotayo (2014) are of the opinion that teachers with three or less years of teaching experience are not as effective as teachers with more years of teaching experience, while rookie-teachers typically being the least effective teachers. It was discovered that rookie teachers make important gains in teaching quality in the first year and smaller gains over the next few career years. However, there is no consistent linear relationship between the teachers' years of experience and students achievement after the initial three years of teaching, making it difficult to say whether there are any discernible differences among more veteran teachers with 7-10 years of experience.

Thus, the ability to teach effectively depends on the teacher's knowledge and experience, and this occurs in a variety of forms. Teacher effectiveness is impeded if the teacher is not familiar with the body of knowledge being imparted. The way the students perceive the teachers in terms of their (teachers') knowledge and experience of the content subject matter may significantly affect students' academic performance. Based on the review of literature above, it could be seen that there are mixed research findings on the influence of the independent variables - school environment - related factors (class size, school location) and teacher factor (teaching experience) on students' academic achievement. Also, most of these researchers in this area were mainly conducted science related subjects. It is in view of this that this current study is aimed at investigating if these variables predict the academic achievement of students with emphasis on Business studies bearing in mind the importance of the subject to the development of human resources of the Nation.

1.2 Statement of the problem

The poor performance of geography students in the senior secondary in recent years leads to credence of this study. This is however predominantly presume to depending on class size and school location. The class size generally has some influence on teaching and learning, (Adenira, 2006). UPE (1976) and UBE (2004) stressed much concern on class size and the general structure of the school was level of ventilation and illumination would be available. Again, geography is mainly connected to the nature; this call for copious teaching aids repeated field trips. It is on ground that the researcher intends to find out influence of school location and class size on student performance in geography.

1.3. Objectives of the study

The following are the objectives of the study;

1. To determine the relationship between class size and performance of geography students in senior secondary schools.

2. To determine the relationship between school location and performance of geography students in senior secondary schools.

1.4 Research questions

The research questions are as follows:

1. What is the relationship between class size and performance of geography students in senior secondary schools?

2. What is the relationship between school location and performance of geography students in senior secondary schools?

1.5 Hypotheses

The following Hypothesis were formulated;

1. There is no significant relationship between class size and student performance.

2. There is no significant relationship between school location and student performance.

1.6 Significance of the study

The study would contribute towards improvement or possible solutions to the challenges faced by the senior secondary school geography students caused my class size and school location. The findings of the research would be significant to the following group; students, parents, and teachers amongst others.

Students are one of the most benefiting groups of people because research has shown that student's performance is an important factor in determining his/her quality. In the view of Jepsen (2015), smaller classes are associated with increased student performance.

Owoeye and Yara (2011), many parents prefer their children to attend schools in urban areas because they believe that students from urban schools perform better than their counterparts from rural schools. Meanwhile, Orji (2013) asserts that many students in the interior villages struggle with the challenge of walking a long distance to school.

1.7 Scope of the study

The scope of the study is restricted to some selected secondary schools in Bosso local government area in Minna. This work will be completed in four weeks' time. The work focuses on the survey of class size, school location and the performance of geography student of secondary school in Bosso local government area, Minna Niger State.

1.8 Limitation of the study

There is no doubt that during the course of writing this project many limitations was encountered; some of them include the following;

1. Time factor: The time was big constraints compared to the volume and quality of work to be done.
2. Data collection: This process passed a lot of limitation on this work due to source of data mentioned.
3. Finance: This is also another limitation as a result of the fact that every stage of this work needed finance beginning from first stage to the last stage.
4. Respondents: There are also limitations due to the preservation attitude of some people in releasing vital information.
5. Effects of COVID-19: Previous school closures have added to the time that most students already spend at home during the months without explicit face-to-face instruction from the project supervisor.

1.9 Definition of terms

1. Survey: An examination, especially an official examination, of a particular group of item or people, in other to ascertain the condition quantity or quality.
2. Class size: Refers to the number of students a teacher faces during a given period of instruction.
3. School location: Refers to the community in which the school is located, such as a village, hamlet or rural area.
4. Performance: Refer to the action or process of performing a task or function.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides an overview of the literature that was read by the researcher before putting the investigation into perspective. The focus was on class size, school location and the performance made by the Geography students in senior secondary schools in Bosso local government area, Minna. It is broadly divided into the following subtopics;

2.2 Conceptual Framework

2.3 Theoretical Framework

2.4 Empirical Studies

2.5 Summary of Literature review

2.2 Conceptual Framework

2.2.1 Class size and performance

Providing an international or even a national profile of performance is not an easy task as it is a complex phenomenon. There is little consensus on what it is or how to measure it. For example, definitions range from those that focus on what should be taught and how knowledge should be imparted, to the kinds of knowledge and training teachers should possess as well as what fully constitutes achievement. Various meanings of performance were briefly discussed in the section on clarification of concepts, none-the-less, the debate is taken a step further. An achievement test is the most common method used to

gauge one's level of achievement. This is a test of developed skill or knowledge. The most common type of achievement test is a standardized test developed to measure skills and knowledge learned in a given grade level, usually through planned instruction, such as training or classroom instruction.

Black and William (1998:274) state that achievement tests are often contrasted with tests that measure aptitude, which is a more general and stable cognitive trait. They contend that achievement test scores are often used in an educational system to determine the level of instruction for which a student is prepared. High achievement scores usually indicate a mastery of grade-level material, and there aides for advanced instruction. Low achievement scores can indicate the need for remediation or repeating a course grade. Achievement tests have taken on an additional role of assessing proficiency of students. Proficiency is defined in the Department of Education (2011) report as the amount of grade-appropriate knowledge and skills a student has acquired up to the point of testing. Better teaching practices are expected to increase the amount learn Edina school year, and therefore to increase achievement scores, and yield more "proficient" students than before. When writing achievement test items, writers usually begin with a list of content standards, (either written by content specialists or based on state-created content standards) which specify exactly what students are expected to learn in a given school year. The goal of item writers is to create test items that measure the most important skills and knowledge attained in a given grade level. The number and type of test items written is determined by the grade-level content standards. Content validity is determined by the presentation of the items included on the final test. The connection between class size and achievement is a quick rallying point for most people in the educational

fraternity advocating smaller classes for better achievement. Class size reduction initiatives have to be accompanied by willingness and a capability to teach if at all achievement is to be realized. Pupil-teacher ratio is important in the learning environment, but it is secondary to the quality of the environment. Sometimes the ability to deal with disruptive students or disruptive issues in the classroom and failure to have administrative backup at the school level puts the teacher in the position, not with standing how many kids are or aren't in the class, of having an almost in tolerable situation in which to teach and the students to learn. The largest contribution to the quality of learning of anything that we do is determined by the environment in the classroom.

According to Biggs, achievement can be realized when you get students to engage in learning-related activities which are aimed at fulfilling ascertain objective, such as, theorizing, problem solving, coming up with ideas of their own and reflection. In this way, knowledge is constructed by the student's learning activities or approaches to learning. The deeper approach encourages the student's active engagement in the work which creates meaning and thus learning takes places ince the focus is the student. The idea is to try to encourage students to actively engage with tasks and thus go 'deep' into learning. The main question of my research project comes into full effect when trying to determine whether it would be possible to achieve such intense interaction with large groups. Would the same level of students' active engagement in learning-related collaborative dialogue in academic pedagogy be fulfilled given a scenario where there are larger class sizes? But educationists and researchers also say that you just can't look at class size reduction alone as the panacea or silver bullet for positive change.

Size researcher, Howard Blake's 1954 inquiry quoted in Biggs (1999:164) analyzed the literature on class size prior to 1950. From the 267 reports located, he chose 85 of those based on original research that dealt with elementary and secondary school students. Of these 85 studies,35 indicated that small classes were better, 18 indicated that large classes were better, and 32 did not support either conclusion. In further analyzing these studies, Blake established criteria to test their scientific acceptability (adequacy of sample, adequacy of measurement of the independent variable, adequacy of criterion variable measurement, rigorousness of data examined and appropriateness of the conclusions). Only 22 of the 85 previously acceptable studies met these minimum requirements. Of these, 16 favored small classes,3 favored large classes, and 3 were inconclusive. Blake, in Biggs (1999:165) believes there is only one way to improve student achievement. His studies have shown that the only factor that can create student achievement is knowledgeable, skillful teacher. A large scale study he conducted found that every additional dollar spent on raising teacher quality netted greater student achievement gains than did any other use of school resources. Researchers such as Blake have shown that having a less effective teacher can significantly lower a student's performance overtime, even if the student gets more competent teachers later on. Blake's study compared low and high achieving elementary school students in New York City and found that teacher qualifications accounted for 90 percent of the variation between the best and the worst students. Schools with more experienced and more highly educated teachers tended to have higher achieving students. Even in very poor schools, students fared well if they had a well-prepared teacher. The most important factor, barnone, is the teacher. An ineffective teacher can affect student learning for years, but having two ineffective

teachers in subsequent years can damage a student's academic career. As teacher effectiveness increases, lower achieving students are the first to benefit.

Other educationists such as Biggs (2003) also agree that there is only one way to obtain student achievement and there search is very specific. It is the teacher and what the teacher knows and can do that is the determining factor with student achievement. The number one factor governing student learning is classroom management. It is teacher practices such as what the teacher does in the classroom to structure and organize a learning environment that govern student learning. Biggs (2003) adds that the teacher is the most important factor that increases student achievement. It is time to organize our schools based on what we want students to achieve, not on what is currently in vogue. The classroom must be organized for learning if student achievement is to increase. Unfortunately, what typically happens in a classroom is that the teacher does activities and then disciplines when problems occur and no time is spent organizing or managing the classroom.

Gordon Cawelti (1999) in a journal on approaches to improving student achievement looked at six very successful but diverse schools, all structured differently yet they all had five factors in common. They all had prominent features of schools that produce student achievement and they are:

Clear and high standards,

Multiple changes,

Strong leadership,

Collaborative teams and

Committed educators.

Motivated by this summary of how achievement is realized in education, Calweti (1999:298) defines educators as: The most effective men and women in every area are those who can quite competently organize the cooperation and assistance of other people toward the accomplishment of important goals and objectives.

Calweti's views are supported by those of Biggs (2003:342) who concurs that: There is only one way to improve student achievement. The teacher is the only factor that can improve student achievement. How schools produce student and learning achievement has nothing to do with literacy results and mere class size dynamics Education is a profession currently marked by an absence of goals. We must become goal-oriented and results-driven. Just implementing promising practices like site based management, cooperative learning, orienteer disciplinary teaching is not enough. We need to implement and obtain solid, purposeful, enduring goals. It is apparent therefore that class size is only a piece of the jigsaw puzzle and can't be afix all solution to the issues related to learner achievement. There is hence the need to adopt a more holistic approach to the situation if a solution is to be found.

2.2.2 The advent of larger classes

Before immersing ourselves into the class size debate, it is important to consider the reasons that have brought about the ballooned class sizes which confront educators in HEI's to date. This convinces us that numbers have actually grown and that the issue is not just a figment of those imaginations operating in overdrive mode. To assist us understand the concept, our debate centers around the findings of Trow (2015) among

other educationists referred to below.

According to Trow (2015), post-secondary education has expanded since World War Two in virtually every country in the world. The growth of post-secondary education has, in proportional terms, been more dramatic than that of primary and secondary education. Trow (2015) speaks of the transition from elite to mass and then to universal higher education in the industrialized nations. While the United States enrolled some 30 percent of the relevant age cohort (18-21 year olds) in higher education in the immediate post-war period, European nations generally maintained an elite higher education system, with fewer than 5 percent of the population attending post-secondary institutions. While Europe and North America are now relatively stable, Trow (ibid) maintains that middle-income countries and countries in the developing world have continued to expand at a rapid rate. Expansion in Africa has also been rapid and has meant that per student expenditure has dropped, contributing to a marked deterioration in academic standards.

There are many reasons for the expansion of higher education. A central cause has been the increasing complexity of modern societies and economies, which have demanded a more highly trained workforce. Almost without exception, post-secondary institutions have been called on to provide the required training. A stark example of the incursion and impact of market forces on the sector was the growth of training in many fields whose skills used to be imparted on-the-job, but have since become formalized in institutions of higher education. Whole new fields of study, such as computer science, have come into existence, and many of these rely on universities as a key source of research and training. Nations now developing scientific and industrial capacity have depended on academic

institutions to provide high level training and research expertise to a greater extent than was the case during the first industrial revolution in Europe.

A university degree is a prerequisite for an increasing number of occupations in most societies. Indeed, it is fair to say that academic certification is necessary for most positions of privilege, authority, and prestige in modern societies. This tends to place immense power in the hands of universities, hence the jostle for enrolment. Trow (2015:272) mentions that The role of the university as an examining body has grown for a number of reasons. As expansion has taken place, it has been necessary to provide ever more competitive sorting mechanisms to control access to high-mover occupations. The universities are also seen as meritocratic institutions that can be trusted to provide fair and impartial tests to measure accomplishment honestly and, therefore, determine access. Expansion has also occurred because the growing segments of the population of modern societies demand it. The middle class, seeing that academic qualifications are necessary for success, demand access to higher education. Governments are generally responding by increasing enrollment. When governments do not move quickly enough, private initiatives frequently establish academic institutions in order to meet the demand. According to Ntshoe (2012:7), this long term plan to "increase the participation rate of tertiary students from 15 to 20% in this millennium highlights the need for universities to take a fresher look at things". The debate continues as the three main views held by most educationists regarding class size and achievement and the relevant theories and literature to support those views are discussed in greater detail.

2.2.3 Class size reduction versus student performance: An introduction

In light of rapidly increasing enrolment in many HEI's across the nation, administrators are under fire concerning the issue of growing class size and the potential diminishing of academic standards. Van Allen (1990:205) asserts that the "quantitative product", monetary gains afforded by increased enrolment far outweigh the "qualitative product" of well-educated and knowledgeable graduates. This view point shows that there are returns to investing in smaller classes for certain students and it provides some evidence on why past literature has produced such inconsistent findings on the impact of class size. This section discusses the consequences of reducing class size on student achievement and it synthesizes research evidence to demonstrate that;

(1) class size is strongly related to student achievement; (2) smaller classes are more conducive to improved pupil performance than larger classes; (3) smaller classes provide more opportunities to adapt learning programs to individual needs; (4) pupils in smaller classes have more interest in learning; and (5) teacher morale in smaller classes is better. The studies indicate smaller classes have more positive consequences than larger ones, no matter how small. While reduced class size may improve school tone and morale, it is not an adequate policy alone for significantly accelerating student achievement. The contending literature from Trow (1995), Krueger (2002) and Glass and Smith (1979) among many other educationists assist in unpacking this debate. Within the educational research literature, there is considerable debate over whether class size has a significant impact on achievement. While there are many other variables which could be responsible for higher or poor achievement, these are largely unimportant for purposes of articulating this debate. These may include the level of initial intelligence and student aptitude, the

length of time dedicated to the subject, availability of resources such as public address gadgets and other audio-visual aids, student and teacher attitudes, the culture in the institution and a host of other factors. Trow (1995) adds that reducing class size to increase student achievement is an approach that has been tried, debated, and analyzed for several decades. The premise seems logical: with fewer students to teach, teachers can coax better performance from each of them. But what does the research show?

The first meta-analysis by Glass, Cahen, and Smith (1978) dealt with the impact of class size on student achievement. By combining 77 studies, which yielded 725 comparisons of achievement in classes of different sizes, they were able to spot trends that did not show up clearly in every study. An important outcome of the Glass/Smith meta-analysis was the finding that the greatest gains in achievement occurred among students who were taught in classes of 15 students or less. Glass, Cahen, and Smith (1978) summarized their findings in these words:

As class size increases, achievement decreases. A learner, who would score at about the 63rd percentile on a national test when taught individually, would score at about the 37th percentile (when taught) in a class of 40 pupils. The difference in being taught in a class of 20 versus a class of 40 is an advantage of ten percentile ranks.

Glass and Smith (1979) on the other hand, suggest that small class sizes in the first four years of schooling can lead to higher attainment by the time the pupil reaches secondary education.

According to these researchers, pupils taught in smaller classes during the primary phase of their education were more likely to go on and eventually proceed to higher education. Some researchers such as Krueger (2002) and Hoxby (2002) have not found a connection

between smaller classes and higher student achievement, but most researchers such as West and Woessmann (2003); Cahen, Filby, McCutcheon and Kyle (1983:202) agree that when class size reduction programs are well-designed and implemented in the American primary grades (K-3), student achievement rises as class size drops. In an effort to understand the inconsistent findings of the past, these authors studied and examined classroom conditions that may affect the link between class size and academic achievement, and also consider whether class size has a different impact for different groups of students.

2.2.4 Debate around the inverse connection between class size and student performance

The aspect of the subject area comes into question; would it perhaps be different depending on whether the subject is content, concept or practical- oriented? Instructional activities offer significant boosts to achievement, but the results of instruction do not seem to differ between small and large classes.

There has however been much need to view the aspect of class size as a holistic factor that does not operate in isolation. For three decades, a belief that public education is wasteful and inefficient has played an important role in debates about its reform. Those who have proposed greater spending programs for educational institutions to improve student achievement have been on the defensive. According to Trow (1995) the presumption has been that changes in structure and governance of schools, standards, accountability, and assessment, to name a few are the only way to improve student outcomes. Traditional interventions, like smaller class size and higher teacher salaries, have been presumed ineffective. Surely class size reductions are beneficial in specific

circumstances for specific groups of students, subject matters, and teachers. Secondly, class size reductions invariably involve hiring more teachers yet teacher quality is a more important factor than class size in affecting student outcomes. Third, class size reduction is very expensive, and little or no consideration is given to alternative and more productive uses of those resources. Similarly, in his study, Krueger (2002) states that the effect of class size found in the STAR experiment, however, is not the only factor in play. The possible benefits of smaller classes must be weighed against the costs, as asserted to by Hoxby (2002). To reduce class size in a meaningful way, school districts might need to hire more teachers, add more classes, and purchase more supplies or all of the above. Questions of class size can feature in decisions from teacher contracts to school construction and other factors.

2.2.5 Counter view: Other factors affecting performance

West and Woessmann (2003) believe that school districts would do better to hire fewer teachers with better credentials than to hire more teachers without regard to the level of credentials and experience. They argue that the quality of the teacher, rather than the size of the class, drives student achievement. In short, the stakes are high when undertaking these initiatives since endless debates continue to rage about the ability of reduced class size to fuel student achievement, making it critical to approach the issue armed with credible research that helps inform decision-making.

Glass and Smith (1979) performed a meta-analysis on the outcomes of 77 studies that included 725 comparisons between a smaller and a larger class on the measure of achievement. The research involved studying various class sizes to ascertain the extent to which class size affected the performance of learners. The two researchers found that 60%

of the comparisons favored the smaller class. First, it should be noted that the effect of class size appeared to grow as size was reduced, for example a reduction from 10 to 5 students yielded better results than a reduction of say from 30 to 25. They also noted that the connection between class size and achievement did not change significantly for students of different ages or different ability levels. Kelly (1979:411) supports this view by Glass and Smith and writes that, "…the Glass study is the first by a nationally recognized researcher to make unequivocal statements about the impact of class size on pupil achievement. It has enormous policy implications".

However, the findings of Glass and Smith (1979) met with stiff criticism from other researchers notably, Webbstock (1999) and Slavin (1989). They argue that these findings were influenced by studies of tutoring, not class size. They add that the report does not make a clear distinction between teaching and tutoring classes. However after much debate and a re-analysis of the works of Hedges and Stock (1983) the following conclusions were arrived at:

- ★ Small classes are important for increased pupil achievement.
- ★ Pupils with lower academic ability tend to benefit from smaller classes more than do

  pupils of average ability.
- ★ Smaller classes can positively affect the scholastic achievement of economically or socially disadvantaged pupils.

Glass and Smith (1979) found that the benefit of small classes held for students regardless of their intelligence level, as some of them had been graded according to achievement level. They believe that smaller sizes are associated with greater individualization and informality, higher quality of instruction and a more positive school climate. They form three categories into which the broader variables can neatly fit in and these are teacher consequences, students' consequences and classroom instruction. Carter (1994) concurs with Glass and Smith and refers to the three categories as behavior management, individualization and curriculum. Carter (1994:167) hastens to add that smaller classes make discipline easier, summing it up as follows: "you spend more time teaching and less time policing".

The Class Size and Achievement Programme (CSAP) which was conducted by Cahen, Filby, McCutcheon and Kyle (1983:202) provide an in-depth analysis of what happens in a classroom when class size increases. The study also found that there are certain consistent consequences across differing class sizes. Cahen et al (1983) identified the same three categories as Carter (1994), namely behavior management, individualization and curriculum. Educators felt that smaller classes make discipline easier. This perception was borne out of observational data indicating that students paid closer attention when class size was reduced. Attention was also enhanced in class discussions because fewer students were lost in the crowd and all students had frequent opportunities to participate. The educator also had frequent opportunities to maintain eye contact with every one of the learners in a sweeping stare. Cahen, et al (1983) speculated that the effect on participation might be more pronounced for low achievers and at risk students because: In a small group, where control is perceived to be easier, the educator may feel

she can take time to draw all students into the discussion rather than rely on volunteers or high achievers to keep things moving along (Cahen et al, 1983:202).

Cahen et al (1983) also concluded that although the curriculum was primarily determined by textbooks and remained unchanged by class size, teachers were able to cover it more effectively. A connection between smaller classes and school success is also supported by the following theories of learning: Gagne's conditions of learning, Gibbon's model-centered instruction, and Ryan and Deci's self-determination theories (Tharpe & Gallimore, 1988:35). These theories posit the idea that when the social context supports self-determination, integration tends to occur, whereas when the context does not support self-determination, introjections tend to occur. What this means is that students internalize material which they perceive to be useful regardless of its interest levels.

Results from past research indicate that class size is equally insignificant for students from different race, ethnic, economic, and academic backgrounds. When learners first come to HEI's, they are confronted with many changes and much confusion. They come into this new setting from a variety of homes and circumstances. Many need training in paying attention, carrying out tasks, and interacting with others in a working situation. In other words they need to learn to cooperate with others, to learn to learn, and generally to get oriented to being tertiary students. These observations fit neatly with several current theories of education, including the idea of frames and scripts.

To support this view, research on instruction indicates that smaller class sizes probably realize their positive outcomes on achievement through a variety of mechanisms. Evidently, small class size is not a panacea to all educational woes. Reducing class size is a significant means of improving student achievement, but it is not the only piece. High

academic standards and a challenging curriculum, more student-on-task behavior, and greater individualization and a safe as well as orderly classroom with qualified teachers are no less significant in the arsenal of solid research-proven reforms. When smaller class size is pursued in conjunction with these standards based reforms, the combined impact on student achievement is far greater than either strategy alone.

2.2.6 School Location and performance

For over four decades, series of studies have suggested the importance of school as social environment of learning. Some of these studies examined locational planning and their attendant consequences on achievement of students in various states of the Federation. The studies were intended to assist education authorities of various states to decide where a particular type of school should be located; the size of a school in each location; whether a new school should be built or otherwise among others (Mbakwe, 1986). The World Bank recommended that the following data were needed for rationalizing and drawing up of both the urban and rural school map. Schools which includes physical aspects, site, type of building, usage, capacity, teachers (numbers, qualification, and age); students which include enrollment in school by age, individual data in age, sex, previous schools, home, location of mode transport, time taken in home/school journey, parental background; Rural and Urban Area Data which include land use administrative map on as large a scale as possible, planning reports, settlement patterns and the likes are required. These school locational planning techniques have been reportedly used by a number of countries to solve their educational problems (World Bank Guidelines 1978).

In applying the school locational planning to study and establishment of secondary level education in a plot study in Niger State of Nigeria, Omoyemi (1978) discovered that

locations of schools was not based on sound principles of distribution of population because of initial community participation. In his observation, Ogunsaju (1984) noted that School sites in the past were arbitrary chosen with little or no consideration for the necessary parameters such as creativity and corporate planning. In another development, Orebiyi (1981) using locational implication of secondary education reform in Oyi Local Government area of Kwara State between 1980 and 1985 purpots that unplanned location of secondary schools has limited the spread of secondary education to a few centers. Madumere (1982) investigated the distribution of secondary schools in Imo State (Ohaozara Local Government area), employing locational planning technique to carry out diagnostic and projection analysis on distribution of facilities in relation to education reforms, discovered among other things, that were imbalances in the relationship between population density and distribution of secondary schools by Local Government Area. In her analysis of the distribution of public primary schools in three selected Nigerian towns, Tanimowo (1995) discovered that the distribution of shows disorder, planlessness and inefficiency. The inefficiency here refers to pupil academic performance. The implication is that while people in some areas enjoy minimum travelling distances to acquire education, some people in other places suffer by having to cover maximum distances to acquire education; some people in other places suffer by having to cover maximum distances to get to their school. In line with the above, Onokerhoraye (1975) emphasized that lack of suitable school location has contributed to the imbalances of Western education from one part of the country to the other.

Writing on the importance of location, Ojoawo (1989) found that it is one of the potent factors that influence the distribution of educational resources, throwing light on

locational influence. Ezike (1997) conceptualized urban environment as those environment as those environment which have high population density containing high variety and beauty and common place views. He further identified the rural environment as being characterized by low population density containing a low variety and isolated place views. Earlier in his contribution, Lipton (1962) corroborated that "rural community is characterized by low population, subsistence mode of life, monotonous and burdensome ". Citing hotels, recreational centers, markets, banks and good road network as being present in their urban environment. Owolabi (1990) accentuated that our highly qualified teachers prefer to serve therein rather than the rural areas. As a corollary of the above, Kuliman et al (1977) observed that teachers do not accept postings to rural areas because their conditions are not up to the expected standard as their social life in the areas is virtually restricted as a result of inadequate amenities; facilities are deficient, playground are without equipment, libraries are without books while laboratories are glorified ones.

Making a critical analysis of locational factors, Hallak (1977) surmised that provision of education in rural areas is normally fraught with the following difficulties and problems; qualified teachers refuse appointment in isolated villages; villagers refuse to send their children to schools because they are dependent on them for help; parents hesitate to entrust their daughters to male teachers; some villagers have few children for an ordinary primary school; lack of roads or satisfactory means of communication makes it difficult to get books and teaching materials to the school which place difficulties in the way of organizing school transport among others.

Writing on the improvisation of science teaching equipment in line with location, Balogun (1982) lamented that unfortunately in Nigeria, where there is a preponderance of poverty among us populace and a wide gap between the rich and the poor … disparity in the distribution of resources and social amenities on the part of the government, the population has polarized into two –of those who favorably affected and those who are disfavored. These two groups have been forced on economic reasons and levels of education to organize themselves into two different sub geographical locations to a very large extent determine what amenities and or facilities are made available to each.

The above findings were corroborated by Mbakwe (1986) when he affirmed that teachers are differentially distributed to schools. According to him, apart from the tendency of qualified teachers to seek deployment in Army schools located in urban towns, particularly in the state capitals, more school facilities and services tended to be concentrated in urban schools. In the words of Sander (1972), he observed that teachers with the highest training are posted to largest cities, and even more noticeably to the capital. This and more findings abound on the disparity in the quality of teachers in urban schools compared to those in rural areas, which consequently affect student's academic attainment. Ibukun (1988) in his investigation observed that teachers in urban secondary schools in Ondo State tended to be better qualified pointing out that there was no deliberate government policy supporting such lopsided resource allocation. In his conclusion, he said rural schools probably become progressively poorly staffed arising from personal refusal of teachers to serve in remote locations. In such location, their pattern of school lives are characterized by dilapidated buildings, which form extension to old ones thus forming a sort of patchwork, with others growing too old and no longer

viable.

According to Banford (1973), some of the schools apart from the fact that they are too costly to run, some have been deserted by their pupils….. teachers in the development of a stereotype about rural schools, Boylan (1998) reported that rural schools were inferior and lacking in the range of facilities with high staff turnover and suffered from lack of continuity in their curriculum. He pointed further that they are staffed by young, beginning and often in experienced staff who regrettably, would not conform with socio-cultural ethos and above all, offered a restricted curriculum, especially to secondary school students. They were also staffed by teachers who accepted their appointment because either; there was no better appointment available, or it was regarded as a quick set up on to promotional ladder.

Writing on locational influence on academic achievement of students. Obe (1984) observed a significant difference in urban-rural performance of 480 primary six school finalist on the aptitude sub-tests of the (Nigeria) National Common Entrance Examination (NCEE) into secondary schools. In his study tagged scholastic aptitude test, he concluded that children from urban schools were superior to their rural counterparts. (Scholastic Achievement Test (SAT) have been described as a broad based achievement measure… Vernon (1951), Musgroove (1965), and Obemeata (1976) hold similar view with Obe's findings. According to Kemjika (1989), in his studies on urban and rural differences in general showed that location of the community in which the school is situated has effect on the performance of pupils. Giving credence to the above, Ajayi (1988) found significant difference in academic performance of students in urban and rural areas of his study. He therefore concluded that the achievement must have been

borne out of many facilities they were used to which were not available in the rural set up. In his study, Omisade (1985) also observed a significant positive relationship between size and location of school and performances in examination in Oyo State. He concluded that large schools in urban areas tend to perform better in examinations than small schools in rural areas. In their findings, however, Axtel and Bowers (1972) found that students from the rural areas perform significantly better than their urban counterpart in verbal aptitude, English Language and total score using the National Common Entrance as a base. In another development, a research team at University of Aston recorded that it had received several well-founded reports that secondary schools have found (pupils from small rural schools) not only as well prepared academically as pupils from other schools, but they generally had a better attitude to work. Having been accustomed to working most of the time on their own, they could be given more responsibility for the organization of their work. Size could not exert significant direct effect on pupils' attitude towards science. Similar view was expressed by Gana (1997) when in his study on the effect of using designed visual teaching models on the learning of Mathematics at Junior Secondary level of Niger State, found that there was no significant difference in Mathematics achievement scores of students in urban and rural locations. From the various review of literature on locational influence on academic are not the same. While some maintain that urban students perform better in examinations than their rural counterparts, other has found that rural students (in spite of all odds) perform better. Some have submitted in their findings and concluded that no particular set up (urban or rural) can claim superiority over the other because their performances are the same.

Alokan (2010) found out that students' problems are strongly associated with poor

performance and that sex and location do not affect the negative relationship between student problems and academic performance. In another development, Considine and Zappala (2002) studied students in Australia and found out that geographical location do not significantly predict outcomes in school performance. Shield and Dockrell (2008) while looking at the effects of classroom and environmental noise on children's academic performance found out that both cronic and acute exposure to environmental and classroom noise have a detrimental effect upon children's learning and performance. In view of these inconclusive findings, it necessary to carry out further research to confirm or annul the otherwise protracted issue on the effect of interaction of location (urban/rural dichotomy) on academic achievement of Secondary Schools students with particular reference to Ekiti State Nigeria.

2.3 Theoretical Framework

2.3.1 Bloom's Taxonomy and Theory of School Location

According to Jonassen, Hannum, and Tessmer (1998), Blooms' taxonomy concurs espouses that in order to create an enabling environment for deep learning, it is vital to structure and scaffold the tasks in line with a ranking which identifies and acknowledges three learning domains. The major domain, the cognitive one is based on intellectual skills and is rarely influenced by external factors such as class size. The cognitive domain is further divided into six distinct levels that encourage the learner to develop increasingly critical abilities so that they progress. Fowler (2002:12) concurs with Blooms in this regard and states that these levels as ranked by Blooms are loosely packaged as knowledge, comprehension, application, analysis, synthesis and evaluation.

Fowler believes that by structuring the tasks so that they start with the focus exclusively on knowledge and through a progressive process include questions from the upper parts and students are given the aptitude to learn effectively. Thus students can easily identify and then consult the lecturer, tutors or peers in order to revise those areas where they have not performed well, further reducing the focus on class size numbers but bringing the problem down to the individual level.

Theoretical modelling of individual locational decisions has relied upon two distinct modelling traditions: urban location models and Tie bout models of community choice. In urban location models, a household‘s location is determined by the trade-off between accessibility and space, ignoring public goods. On the other hand, Tie bout models emphasize public goods and taxes but ignore accessibility. Some recent works provide initial efforts at a unified treatment of those two artificially separated streams of literature. Importantly, the issue of race is absent from the theoretical models, although it is partially captured by the correlations of race and income A key element of the theoretical models is the general equilibrium nature of locational decisions and schooling choice. With changed economic incentives, the level and distribution of educational services change along with the locational decisions of households. This has direct ramifications for a number of educational policy and finance decisions. Urban Location Models in Urban economics has largely focused on household location and urban form as dictated by accessibility concerns. A variety of authors helped develop the basic urban location model, including Alonso (1964), Mills (1967, 1972), Muth (1969) , and Kain (1975).The general structure is clearly developed in Muth‘s classic book, Cities and Housing (1969), in which he analyses the workings of price systems in urban housing markets and

investigates the determinants of the spatial structure of urban areas and the growth of cities. His book spearheaded a theory of the internal structure of a city emphasizing housing markets, accessibility, and land use and formalized a model of household locational choice. In the most basic model, he assumes that the household consumes an aggregate commodity called housing services, works in a central business district, and resides in one of the series of residential contours that surround the central business district. A household chooses the location that provides the best trade-off between housing costs and commuting costs. The housing industry produces the housing service.

In Muth model, the price of housing space is an inverse function of distance from the central business district, and the cost of commuting varies directly with both distances from the central business district and wage income. Muth finds that a change in wage income will increase commuting distance if the income elasticity of demand for housing space exceeds unity, but a change in non-wage income will increase commuting distance if the income elasticity of demand for housing space is positive. His theory of income segregation suggests that central locations provide the best trade-off for the poor, while suburban locations provide the best trade-off for the wealthy. Muth and many researchers following him provide extensive empirical studies that help us understand the basic aspects of residential choice and location. Nonetheless, the basic income location model does not completely match the empirical facts. In one recent paper, Glaeser, Kahn, and Rappaport (2008) find that the income elasticity for land is too low to explain much of the poor in cities, rich in suburbs‖ equilibrium in the United States. Their explanation revolves around better access to public transportation in central cities.

2.4 Empirical studies

Empirical studies conducted within and outside Nigeria on the influence of class size, teacher variables and location of schools were reviewed.

2.5 Summary of literature review

The chapter reviewed related literatures on influence of class size and teacher variables-qualification and experience on academic performance of secondary school students. The concepts of class size, influence of class size, benefits of class size and empirical studies on class size were discussed. Class with up to 40 students is classified as small class size, while class with over 40 student is classified as large class size. The concept teacher qualification and empirical studies on teacher qualification was also discussed. Teachers with NCE, B. Ed, M. Ed and Ph.D. are classified as qualified while teachers with M. SC, HND without PGDE are classified as not qualified. Teachers who have taught between 1-3 years are classified as less –experienced, while those that have taught over 3 years are classified as experienced. Under the sub-heading school location, school located at the state capital and local government headquarters are classified as urban schools while those located outside of these areas are classified as rural schools. And finally, academic performance under which the concept of academic performance, theories of academic performance and determinants of academic performance were explored.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, methodology of the study is presented. The research design, population of the study, sample and sampling technique adopted for this study is discussed. The instrument for data collection, validity and reliability of the instrument, method of data collection and analysis were all discussed.

3.2 Research Design

The descriptive survey research design was adopted for this study. The design was considered useful as the researcher is interested in investigating whether school location and class size predict students' academic performance in geography in some selected secondary schools in Bosso Local Government Area of Niger State, Nigeria. Also, due to the comparatively dissimilar characteristics of the respondents, it was decided that a survey design would be the best method of collecting useful information that would be needed to establish facts being sought by this study.

3.3 Population of the study

The target population of the study was all the results of the students offering geography drawn from 6 schools. 3 urban school locations and 3 rural school location including the class sizes (Both small and large classes) within Bosso Local government area Minna, Niger state. Six schools were randomly selected which consists of five thousand and thirty eight (5,038) students during 2020/2021, 2018/2019 and 2017/2018 academic sessions.

3.4 Sample and Sampling Techniques

The sample size for this study was 500 results drawn from the six (6) schools randomly selected from the total result of 5,038 students. The instrument for the study was the student's results obtained from the 6 schools.

3.5 Research Instrument

The instrument used for the study was the students results obtained from the six 6 schools. It is the result of students offering geography in the selected schools. The researcher obtained the promotional results of geography students for three academic sessions which include 2016/2017, 2017/2018, 2018/209 respectively.

3.6 Validity and Reliability of Research Instrument

The result items will be given to the project supervisor, Dr. (Mrs.) Amina Tchado in the Department of science education of federal university of technology Minna for face validation. The comments of the lecturer will be presented under appendix B and will help the researcher to modify the test instrument before production.

3.7 Method of Data Collection

The researcher obtained a letter of introduction from his department, then went to the selected schools and introduced himself to the principal(s)/authorities of the selected schools, stating the purpose of his visit, presented the letter of introduction from his department and also obtained permission for the exercise. The school principals took the researcher to the various examination officers in the schools where all students' results are kept for records.

3.8 Method of Data Analysis

For the data analysis however, the descriptive statistics of percentage was used to analyse data collected and hypothesis formulated. The hypothesis were tested at 0.5 level significant. The responses of the respondents were counted tailed and converted into percentage for easy description.

CHAPTER FOUR

RESULTS AND DISCUSSION OF DATA

4.1 Introduction

This chapter is comprised with presentation and analysis of data collected from selected schools which is analyzed, interpreted and presented in a way that could be understand.

4.2 Data Presentation and Analysis

Location of School

		Frequency	**Percent**
	Urban	234	46.8
Valid	Rural	266	53.2
	Total	500	100.0

Source: Researcher's Field Survey (2021)

Table 4.1 above indicates the location of school and it shows that locations in the Rural Areas are more of Urban Areas

Class size

		Frequency	**Percent**
	Below 40	224	44.8
Valid	Above 40	276	55.2
	Total	500	100.0

Source: Researcher's field survey (2021)

Table 4.2 indicates the class size and shows that 55.2% of the 500 drawn results are more than 40 in a class while 44.8% are below 40 in a classroom.

Test of hypothesis

Test Statistics

	There is no significant relationship between class size and student performance
Chi-Square	15.680°
Df	1
Asymp. Sig.	.000
Sig.	.000
Monte Carlo Sig. 5% Confidence Lower Bound Interval Upper Bound	.000 .000

- 2 cells (5.2%) have expected frequencies less than 5. The minimum expected cell frequency is 100.0
- Based on 500 sampled tables with starting seed 5000000.

Table 4.3 indicates the test of hypothesis, and shows the p-values of advisory scales (0.05) are less than 5% are less than 5% level of significance level (0.05), the null hypothesis. There is no significant relationship between class size and student performance is therefore rejected, while the alternative hypothesis is accepted in other words, the study accepts the alternative hypothesis and rejects the null hypothesis.

Test of hypothesis

Test Statistics

	There is no significant relationship between School location and student performance
Chi-Square	32.000°
Df	1
Asymp.	.000
Sig.	.000
Monte Carlo Sig. 5% Confidence Lower Bound	.000
Interval Upper Bound	.000

- 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 100.0.
- Based on 500 sampled tables with starting seed 599883525.

Table 4.4 indicates test of hypothesis, and shows the P-values of advisory scales (0.05) are less than 5% level significance level (0.05), the null hypothesis. There is no significant relationship between School location and student performance is therefore rejected, while alternative hypothesis is accepted. In other words, the study accepts the alternative hypothesis and rejects the null hypothesis.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the study

This study aimed at finding out the effects of class size and location of schools on the academic performance of geography students of senior secondary school students in Bosso local government Area in Minna. This chapter presents the summary, implications, conclusion, and recommendations. Location of school has significant influence on the academic performance in most schools located in the rural areas that lacks enough learning equipment, compared to their counterparts in the urban areas. Academic performances of students are significantly low in classes with high population of over forty (40) students. Most of the higher grades from the results collected were from schools located in the urban area with lower class population of less than 40 students.

5.2 Major findings of the study

Based on the findings of the study, the following conclusions were made;

i. Academic performance of students is significantly influenced by their class size with smaller classes performing better than their equivalent in the larger classes.
ii. Location of school has significant influence on the student's academic performance with the schools located in rural areas recording lower grades than their equivalent in the urban areas.

5.3 Recommendations

The following recommendations are suggested based on the outcome of the findings;

i. The results of the influence of class size on the academic performance of secondary schools students, and the facts that small classes have some advantages, it is recommended that schools should stick to the 40:1 students – teacher ratio as stipulated by the National Policy on Education. Class management and control is

easier to achieve in a smaller class which goes a long way to determine the outcome of the learning.

ii. Class size require more facilities, therefore stakeholders should endeavor to provide required facilities and instructional materials for the teaching and learning the schools.

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