THE INFLUENCE OF CLASSROOM SIZE IN TEACHING AND LEARNING OF MATHEMATICS IN OREDO LOCAL GOVERNMENT OF EDO STATE

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A PROJECT SUBMITTED TO THE DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY , FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN CITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE B.Sc (Ed) DEGREE IN ENVIRONMENTAL EDUCATION, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE.

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CERTIFICATION

We the undersigned, hereby certify that this work was carried out by **Efe Osama Samuel** with the matriculation number **EDU2202765** in the Department of Curriculum and Instructional Technology , Faculty of Education, University of Benin, Benin City, Edo State in partial fulfillment of the requirement for the award of Bachelor of Science (B.Sc. Ed) degree in Health Education.

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DEDICATION

This project is dedicated to Almighty God, whose grace, wisdom, and strength made this research possible. It is also dedicated to my beloved parents and loving siblings for their unending love, prayers, and support throughout my academic journey.

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The researcher wishes to express her profound gratitude to Almighty God for His divine guidance, protection, and strength throughout the course of this research work. Without His grace, wisdom, and sustenance, the successful completion of this study would not have been possible.

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ABSTRACT

This study examines the influence of classroom size in teaching and learning of mathematics in Oredo Local Government of Edo State Four research questions were raised one was hypothesized.

The study employs survey research design. The population of the study comprised all students in public primary schools and mathematics teachers in Oredo LGA. According to the Edo State Ministry of Education (2024), the LGA has approximately 200 students enrolled in the targeted grades and 25 mathematics teachers, making a total accessible population of 225 respondents.

The sample for this study consists sample size was initially calculated as 144 respondents. A multi-stage sampling procedure was employed to attain representativeness across the study area. First, stratified sampling was used to categorize schools within Oredo LGA into urban and semi-urban strata. From these strata, simple random sampling was employed to select five public primary schools.

The findings of this study reveals The examined This study examines the influence of classroom size in teaching and learning of mathematics in Oredo Local Government of Edo State ". The questionnaire was divided into two sections, A and B. Section A focuses on the demographic or personal data of the respondent while section B contains information which bothers on the problem of this research.

The studyrecommend Policy Implementation: Educational policymakers and planners should ensure that class sizes in public secondary schools conform to the recommended student–teacher ratio (1:40) to enhance learning outcomes.

CHAPTER ONE

INTRODUCTION

Background to the Study

Education is universally acclaimed as the bedrock of human capital development and national advancement. Mathematics is at the center stage of the educational system because it is a compulsory subject in Nigerian secondary schools and the linchpin of science, technology, and innovation. Yet, despite this significance, learning and teaching mathematics have remained challenging, with evidence showing that students' performance in the subject has remained poor in both internal and external examinations. The West African Examinations Council (WAEC) reports have continued to single out mathematics as one of the subjects with the lowest pass rates among Nigerian candidates (WAEC, 2022). This poor performance has raised alarm about the determinants of mathematics education, one of which is class size. Class size, defined as the number of students instructed together in a class under the supervision of a teacher, is widely accepted as an important determinant of learning and teaching quality. Closely connected to class size is the student–teacher ratio, which is the average number of students for every teacher. The National Policy on Education in Nigeria recommends the 1:40 ratio for secondary school level (Federal Ministry of Education, 2014). Practically, however, public secondary schools have ratios well over this in reality, especially in urban areas such as Oredo Local Government Area of Edo State. In some schools, a single classroom can have 60 to 80 students taught by one

teacher, resulting in overcrowding and overburdening the teaching–learning process (Ehren & Teltemann, 2021).

The distinction between small and large class sizes is typically made in the assessment of learning results. Small class sizes, typically below the optimum ratio, tend to allow for greater teacher–student contact, individualized attention, improved monitoring of student learning, and greater participation in classwork (Blatchford et al., 2011). Large class sizes limit opportunities for individualized instruction, make classroom management more difficult, and generally lower the quality of feedback given to students (Owoeye & Yara, 2011).

Several studies have clarified that class size is a significant variable in learning enhancement and students' performance. Evidence from Nigerian schools shows that students in small-sized classes perform better in mathematics compared to students in large-sized classes, primarily because teachers in small groups can identify learning difficulties earlier and alter their teaching methods (Adeyemi, 2014). Conversely, overcrowded classrooms render it difficult for teachers to maintain discipline, closely monitor students, and give adequate attention to underperforming students, hence lowering the quality of classroom teaching (Finn et al., 2003).

The debate on whether class size alone improves the academic performance of students has produced inconclusive outcomes. Whereas some researchers believe in the positive correlation between small class sizes and improved student performance, others have argued that teacher quality, teaching methods, and the availability of resources might play more roles than class size alone (Hanushek, 2016). Nevertheless, the recurring poor performance of Nigerian students in

mathematics suggests that class size remains an important variable that cannot be wished away. In Oredo LGA, as in much of the country, the facts of large class sizes, limited infrastructure, and a shortage of teaching staff present challenges to efficient teaching and learning. Understanding the impact of small and large class sizes on students' academic achievement in mathematics is therefore necessary, not only to improve learning outcomes but also to inform education policy and classroom management issues. This study seeks to explore these dynamics in the case of Oredo LGA, Edo State.

Statement of the Problem

Mathematics performance by students has been a long-standing issue to parents, teachers, policymakers, and researchers in Nigeria. Reports by WAEC and NECO have continued to register high failure rates in mathematics, challenging the effectiveness of the learning and teaching process. Several researchers have examined the reasons for mathematics poor performance, with class size being of specific interest. For instance, Adeyemi (2014) found that class sizes at high school level negatively affect the quality of teaching since instructors are unable to offer unique attention to their students because of overcrowding, leading to low performance. Similarly, Blatchford, Bassett, and Brown (2011) emphasized that lower classes facilitate higher teacher–pupil interaction and improve classroom participation and pupil performance. In a related study, Owoeye and Yara (2011) reported that overcrowded classrooms in Nigerian schools create significant challenges for classroom management and assessment, which in turn undermine students’ performance in mathematics.

While these studies provide useful insights, they also present certain limitations. Adeyemi's (2014) study, though significant, was limited to Ekiti State and did not explore the specific context of urban areas where overcrowding is most acute. Blatchford et al. (2011) conducted their study among the developed countries, so it becomes less relevant to Nigeria's unique education issues. Overcrowding was recognized as an issue by Owoeye and Yara (2011), but they were more concerned about school location than directly comparing small and large classes in terms of maths attainment.

The gap therefore is that there has not been a localized study that has specifically focused on the impact of small and large class sizes on the teaching and learning of mathematics in Oredo Local Government Area of Edo State, where overcrowding is a point of concern. This study tries to fill this gap by providing context-specific data regarding whether small or large class sizes make a significant difference in the performance of students in mathematics in Oredo LGA. The implications of the results will fuel part of the ongoing debate on class size and provide valuable input into policy formulation as well as classroom management strategies in Nigeria.

Research Questions

The study will be guided by the following research questions:

1. What is the level of small and large class sizes in the teaching and learning of mathematics and students' academics in Oredo LGA of Edo State?
2. Is there a difference in the mean performance of students in small and large class sizes in mathematics?
3. Does small and large class size influence students' academic performance in the teaching and learning of mathematics in Oredo LGA?

Purpose of the Study

The main objective of this study is to examine the influence of small and large class sizes on teaching and learning of mathematics and students' academic performance in Oredo LGA. The specific objectives are to:

1. Determine the level of small and large class sizes in the teaching and learning of mathematics in Oredo LGA.
2. Compare the mean performance of students in small and large class sizes in mathematics.
3. Examine whether small and large class sizes influence students' academic performance in mathematics.

Significance of the Study

This study is significant in several ways. For teachers, it will provide useful insights into how class size influences the teaching of mathematics and guide them in adopting strategies that can enhance learning outcomes. Students will equally benefit, as the findings will highlight how class size affects their participation in class activities and overall academic performance in mathematics. School administrators and policymakers will also find the results valuable, as they will offer empirical data to support informed decisions on teacher recruitment, classroom management, and the allocation of resources to ensure effective teaching and learning. Furthermore, the study will serve as a reference point for future researchers, thereby contributing to the existing body of literature on class size and students' academic performance in mathematics.

Scope and Delimitation of the Study

This study is limited to investigating the influence of small and large class sizes on the teaching and learning of mathematics and students' academic performance in Oredo Local Government Area of Edo State. The focus will be on selected public secondary schools within the local government, where mathematics teaching, learning, and performance will be specifically examined. The research is delimited to mathematics as a subject because of its central importance to science and technology education, and because it is compulsory at the secondary school level. It will not cover private schools or other subject areas, nor will it examine factors such as home background, socio-economic status, or availability of instructional

materials, even though these may also influence performance. By concentrating on class size as the main variable, the study aims to generate empirical evidence on its effect on mathematics teaching and learning in the study area.

Operational Definition of Terms

- **Class Size:** The number of students assigned to a teacher in a mathematics classroom (categorized as small or large).
- **Small Class Size:** A relatively low student–teacher ratio that allows closer interaction between teacher and students.
- **Large Class Size:** A relatively high student–teacher ratio that often limits individual attention and participation.
- **Teaching and Learning of Mathematics:** The process by which teachers deliver mathematics content and students acquire knowledge and skills in mathematics.
- **Academic Performance:** The measurable outcomes of students' achievement in mathematics, reflected in test scores, assignments, and examinations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The literature were reviewed under the following subheading;

- Theoretical framework
- Concept of Students' Academic Achievement in Mathematics
- Teacher–Student Interaction and Students Academics Achievements
- Feedback and Assessment and Students Academic Achievements
- Learning Environment and Students Academic Achievements
- Classroom Size and Students Academic Achievement
- Summary of reviewed literature

Theoretical Framework

This Study is Based on Constructivist Theory of Learning (Piaget, 1972; Vygotsky, 1978)

The constructivist theory of learning, as formulated by Jean Piaget and Lev Vygotsky, emphasizes the reality that students are not passive recipients but actively construct knowledge based on their previous experience, interactions, and interaction with their environment. Learning, according to Piaget, occurs when students integrate new knowledge into existing mental frameworks and adjust their mental models when confronted with new situations. Vygotsky, though, focused on the social nature of learning, namely the importance of interaction with teachers and classmates through his theory of the Zone of Proximal Development (ZPD), whereby students achieve more through guided support than they are able to independently.

Applied to the classroom environment, this theory suggests that learning math will be most productive when discussion, cooperation, guided discovery, and immediate feedback opportunities exist. Class sizes that are smaller enable a more conducive environment for such constructivist activities, as instructors can provide individual guidance, scaffold learning tasks, and facilitate active participation by all students. For example, math classes with problem exercises or discussions become less challenging and more efficient with small class sizes where instructors have the ability to keep up with developments and adjust instruction to fit each learner's learning needs.

Conversely, in crowded classrooms, constructivism is less viable. The teacher will be unable to engage all the students in meaningful activities due to time constraints, high workload, and difficulties in providing individual assistance. High student-teacher ratios often force teachers to employ more memorization and lecturing techniques, which are antithetical to constructivist philosophies of active learning focused on the learner. This limitation is most critical in mathematics, a subject that requires constant practice, reflection, and step-by-step guidance. The constructivist theory therefore emphasizes manageable class sizes as the prerequisite for successful teaching and learning of mathematics. In ensuring an environment conducive to students actively constructing knowledge through interaction, discussion, and teacher scaffolding, small class sizes facilitate deeper comprehension, while larger classes hinder the application of constructivist theory.

Bloom's Mastery Learning Theory (Bloom, 1968)

Bloom's Mastery Learning Theory relies on the premise that almost every student can achieve high knowledge levels, provided that they are given sufficient time, a proper method of instruction, and necessary support. Variations in students' performances, in Bloom's view, are not attributed to differences in abilities but to variations in conditions of learning offered to them. The theory is centered on formative assessment, corrective feedback, and differentiated instruction as strategies to enable all students to master the content before progressing to more advanced topics.

Mastery learning plays a very crucial role in mathematics instruction and learning because math cumulatively adds up to previously learned concepts. For example, a student who has not fully mastered fractions will struggle with algebra and higher-level problem-solving challenges. In line with Bloom's theory, teachers are meant to practice corrective teaching as well as additional practice to make sure that all students comprehend key concepts before introducing new materials.

Smaller class sizes support mastery learning because teachers can more easily identify students struggling, provide feedback at the individual level, and tailor instruction to address a variety of learning needs. In such an environment, formative assessments are easily performed, and students can be provided with immediate advice, thus closing the gaps in learning. Teachers in small classes can better differentiate instructional strategies—such as peer tutoring, small group debates, or guided practice—that facilitate mastery of mathematics.

Conversely, large class sizes inhibit mastery learning. With that many students, teachers are not able to monitor individual progress, detect learning issues, or provide the necessary corrective instruction. The sheer volume of marking and testing necessary for so many students also discourages the use of continuous formative assessment, another pillar of Bloom's model. Therefore, in large classes, students fall behind, resulting in sizeable achievement differentials in mathematics. Bloom's theory therefore highlights the importance of class size in determining mastery learning achievement. Through the guarantee that students are instructed in environments where individual attention and feedback are possible, smaller classes ensure maximum possibilities for all students to master mathematical concepts, whereas dense environments compromise this goal.

Concept of Academic Achievement in Mathematics with Classroom Size

Mathematical academic achievement is the extent to which students demonstrate understanding, retention, and use of mathematical concepts as reflected on tests, examinations, assignments, and continuous assessment. In Nigeria, academic achievement of this nature is usually quantified by school internal examinations and standardized examinations like the West African Senior School Certificate Examination (WASSCE) and the National Examination Council (NECO). These examinations provide a measure of baseline to assess how well students grasp mathematical ideas and apply them to solve math problems (Okoye & Adeyemi, 2021).

Reports of national examinations in Nigeria, 2020-2023, indicated fluctuating performance in mathematics. For instance, even though a significantly high proportion of

candidates gained credit passes in mathematics in 2021, the following years showed lower aggregate pass rates, which has raised questions about the quality of learning settings in the majority of schools (Eze & Olanrewaju, 2022). Researchers have linked these trends to problems such as overcrowded classrooms, poor learning materials, and reduced opportunities for individualized feedback by teachers (Ogunleye, 2020; Musa & Ibrahim, 2023).

Class size significantly impacts mathematics academic achievement as it directly affects the teacher to engage with the students, monitor progress, and provide corrective instruction. With fewer students in a class, teachers can conveniently use formative assessment, provide immediate feedback, and adjust teaching to individual levels of learning. This becomes more likely that students will learn mathematics concepts (Adebayo & Salami, 2021). Conversely, however, in overcrowded classes, students receive less individual attention, formative feedback is reduced, and teachers resort to lecturing, which hinders greater conceptual understanding and lowers achievement levels (Ogunleye, 2020).

Recent comparative research in Nigerian classrooms also illustrates that pupils in classes with less than thirty students continually perform better than pupils in overpopulated environments in continuous tests and formal mathematics tests (Musa & Ibrahim, 2023). These results are consistent with global evidence that class size reductions have notable effects on mathematics performance, particularly when accompanied by effective pedagogy and sufficient provision of learning resources (Johnson, 2022).

Generally, mathematical achievement at schools is not only a reflection of efforts made by the students, but also an outcome of the learning climate in class. Class size plays a crucial role since small classrooms enable better teacher–student interaction, individual attention, and overall achievement and, conversely, congested classrooms lead to persistent learning deficits in mathematics.

Teacher–Student Interaction and Students Academic Achievements

Interactions between the teacher and student play an important role in facilitating learning, especially in mathematics where ideas will often require to be explained, rehearsed, and tested immediately. Reduced class sizes are likely to facilitate this interaction, as educators have a higher possibility of monitoring individual progress, answering queries by the students, and creating channels for guided solving practices. In this case, the learners are more comfortable to participate actively, and research has shown to enhance their performance in mathematics (Okonkwo & Edeh, 2021).

On the other hand, dense classrooms restrict chances for meaningful interaction between teachers and students. As learners are more than the teacher can effectively manage, the interactions are superficial and controlled by a few student voices. This often results in passive learning where students are in large numbers and do not get personalized attention required for understanding mathematics concepts (Adebayo & Salami, 2021). Research conducted in Nigerian secondary schools showed that students in classes with under thirty students always perform better than their counterparts in classes with over fifty students consistently in

mathematics continuous assessments and standardized exams by a wide margin, attributed to increased teacher–student interactions (Musa & Ibrahim, 2023).

Comparative outcomes in sub-Saharan Africa also point out that having small classes, along with having high levels of teacher participation, results in measurable progress in math achievement. Johnson (2022) had indicated that students in smaller classes not only showed enhanced test performance but even performed better at problem-solving because they were more likely to be in contact with teachers when in the classroom. This means that the achievement is indirectly defined by class size since it impacts the frequency and quality of teacher-student interactions. Overall, quality teacher–student interaction is a powerful determinant of math achievement, and class size fulfills the function of determining the amount of this interaction that is possible. Small classes offer the ideal context for individualized attention, whereas large classes limit such opportunities and result in lower performance in math.

Feedback and Assessment and Students Academic Achievements

Feedback and assessment are central to improving academic performance, particularly in mathematics where processes must be learned and practiced step by step. Timely individualized feedback allows the learners to identify errors, correct misconceptions, and solidify their understanding. Teachers are able to assess students more effectively with fewer students in a class by marking scripts quickly, giving back work, and providing copious guidance to weaker students. Through this, learning issues can be addressed at the formative stages before they become entrenched (Okafor & Bello, 2021).

A study done in Nigerian secondary schools revealed that students in smaller classes with less than 30 pupils received their feedback within a mean time of 3–5 days, whereas in overcrowded classes of 60 and more pupils, feedback was typically provided after about two weeks (Adebayo & Salami, 2021). The delay reduces learning efficiency because the learners are able to move to new topics without resolving previous challenges, which also affects their performance in mathematics negatively.

National results also reflect this pattern. Between 2020 and 2023, the WAEC reports indicated that candidates from less populated schools with smaller class sizes registered average pass rates of mathematics at credit level at 65%, while in more populated schools, the percentage was 48% (Musa & Ibrahim, 2023). Researchers attributed the disparity to the greater likelihood of the students in the smaller classes receiving ongoing assessment feedback, which maximizes mastery learning methods.

It is also supported by global comparisons. Johnson (2022) discovered that East African secondary schools with a maximum number of 35 students per class were associated with a 12–15% increase in mathematics achievement scores due to higher application of formative assessment and tailored feedback. Conversely, in schools with larger-than-60-class sizes, testing was largely summative and instructional, leading to weaker learning outcomes. In summary, mathematics attainment is influenced directly by assessment and feedback, although class size regulates their influence. Teachers are able to provide immediate, individual feedback that

reinforces students' learning in smaller classes, while large classes are inclined to result in delayed assessment and lower achievement.

Learning Environment and Students Academic Achievements

The quality of the learning environment has consistently been one of the most crucial factors to achieving academic success. In mathematics, where problem-solving and focus are essential, the physical and mental condition of the classroom is a significant factor. Overcrowded classrooms have a way of easily becoming loud, poorly ventilated, and uncomfortable rooms that distract students and reduce their ability to learn. This is particularly distressing in mathematics, where learners need extended periods of attention to understand abstract concepts and solve multi-step problems (Eze & Okeke, 2022).

Smaller, well-structured classes have been found to enhance students' attention and engagement. When the learning environment is well structured and adequately equipped, students are more attentive and engaging in classroom activities. A study by Akinola (2020) concluded that students in schools with less than 40 students in a class performed significantly better in mathematics than students in overcrowded classes of more than 70. Similarly, Adegboye and Salami (2021) observed that students in classrooms that were supportive of learning averaged 15% more in continuous tests in mathematics than students in dilapidated and overcrowded classrooms.

There are also environmental elements such as lighting, seating, and ventilation that have direct impacts on achievement. Poor lighting strains the eyes while carrying out problem-solving

tasks, while poor ventilation leads to fatigue and lack of concentration. In a comparison study, Musa (2019) observed that students in classrooms with good seating and good ventilation had more perseverance in working out hard algebraic and geometric problems than students in poor environments. These findings are in line with more general evidence that the conduciveness of the learning environment is a predictor not only of academic achievement but of learners' attitude towards mathematics in general. In effect, the learning environment is not a passive background condition but an active determinant of performance. Schools that minimize overcrowding, noise, and poor infrastructure are more likely to produce learners that are confident and successful in mathematics.

Classroom Size and Students Academic Achievement

Class size is a significant determinant that affects students' performance, particularly in courses such as mathematics where active learning, practice, and feedback from the instructor are important. A smaller class of about 20 to 30 students allows the instructor to provide more individual attention, oversee the students attentively, and give instant feedback. On the other hand, bigger classes, typically more than 50 pupils, limit the ability of the teacher to manage the class, thereby reducing the possibilities of individual contact and feedback (Okonkwo & Edeh, 2021).

Internal and external examination performance is a critical measure of accomplishment affected by class size. Students in smaller classes perform better in internal and external examinations because they have greater chances of asking questions, clarifying misconceptions,

and receiving personal attention. Studies have shown that mathematics scores are higher in smaller classes, and they are quite higher than those of students in crowded classes (Musa & Ibrahim, 2023). The difference in achievement is between 10 and 15 percent, showing the impact of class size on educational outcomes. Large classes, however, have a tendency to compel instructors towards using lecture-based methods that can interfere with learning and impair performance on continuous assessment and end-of-semester exams (Adebayo & Salami, 2021).

Development of problem-solving abilities is another important result that is affected by class size. Mathematics learning entails repeated practice in thought and logical application. In small classes, teachers have opportunities to guide step by step, correcting errors, and cultivating critical thinking. Okafor and Bello (2021) observed that the students in small classes performed better on problem-solving activities compared to those learning in large classes due to more frequent interactions with the teacher as well as collaboration opportunities. Weaker students in large classrooms are largely left behind because it becomes difficult for the teachers to give the required attention, thus widening the achievement gap between the high and low achievers.

Apart from that, class size plays an important role in influencing students' attitude and motivation towards math. Students in small classes have improved attitudes, higher levels of interest, and greater motivation because they experience a sense of belonging and personal attention from their teachers. They receive more encouragement and feedback, which reinforces effort and raises confidence levels. In big classes, however, the majority of the students are passive learners, demotivated by inattention and impersonal learning environment (Bolander,

1973). Over time, it reduces their participation and decreases their level of performance in mathematics.

Finally, class size effect is also felt in WAEC and NECO performance in mathematics that continue to remain important indicators of Nigerian academic success. Evidence shows that students in smaller classes always do better in external exams than students in large classes. For instance, comparative studies in Nigerian secondary schools have established that schools with average class sizes register better pass levels in mathematics than schools where the class size is over 50 (Nwankwo, 2020). This trend focuses on the classroom size factor as a major determinant of achievement in national exams, whereby the smaller classes are more adequately prepared by intense test-taking, problem-solving exercises, and adequate teacher guidance.

Generally speaking, classroom size is a major determinant in constructing academic performance in mathematics. Small classes enhance test scores, problem-solving capacity, student motivation, and overall achievement in national exams such as WAEC and NECO. On the contrary, nevertheless, large class sizes have a negative inclination towards decreasing teaching effectiveness, disappointing students, and limiting performance results. These findings encourage policymakers, school officials, and teachers to put reasonable class sizes at the top of the agenda as an intervention for improving students' mathematics performance.

Summary of Reviewed Literature

The literature reviewed emphasizes the significant contribution classroom size makes towards the teaching and learning of mathematics. Theoretical orientations drawn from constructivist theory of learning, Bloom's mastery learning theory, and the input–process–output model emphasize that effective learning, differentiated instruction, and increased pupil attainment are encouraged in small-sized classrooms.

Ideally, the class size affects not only the teachers' workload but also students' engagement, classroom management, and the learning climate in general. Math, being one of those subjects that require constant practice and guidance, suffers in crowded classrooms.

Empirical studies reported from Nigeria and other countries alike consistently show that pupils taught in smaller classes perform better in mathematics than pupils in larger classes. While the quality of instructors and the availability of material also play a role in learning outcomes, class size is a determinant factor for success. In summary, studies show that classroom size is an important influence on teaching and learning mathematics. This provides a foundation for analyzing its impact on the performance of students in public schools in Oredo LGA.

CHAPTER THREE

METHODOLOGY

This chapter describes the methods adopted in this study. These are the research design, population, sample and sampling technique, research instrument, validity, reliability of the instrument, method of data collection, and methods of data analysis.

1. Research Design
2. Population of the Study
3. Sample and Sampling Technique
4. Research Instrument
5. Validity of the Instrument
6. Reliability of the Instrument
7. Method of Data Collection
8. Method of Data Analysis

Research Design

The study employed a descriptive survey research design. This design was considered appropriate because it allows for the collection of quantifiable data from a representative sample and enables the researcher to examine the influence of classroom size in teaching and learning of students' academic performance in mathematics without manipulating any variables. The

descriptive survey design is particularly effective in identifying patterns and trends in educational research.

Population of Study

The population of the study comprised all students in public primary schools and mathematics teachers in Oredo LGA. According to the Edo State Ministry of Education (2024), the LGA has approximately 200 students enrolled in the targeted grades and 25 mathematics teachers, making a total accessible population of 225 respondents.

Sample and Sampling Technique

Using Taro Yamane's formula at a 5% margin of error, the sample size was initially calculated as 144 respondents. A multi-stage sampling procedure was employed to attain representativeness across the study area. First, stratified sampling was used to categorize schools within Oredo LGA into urban and semi-urban strata. From these strata, simple random sampling was employed to select five public primary schools. Within the selected schools, purposive sampling was used to select mathematics teachers teaching the targeted classes, while stratified random sampling was applied to select students proportionately from different grades, ensuring adequate representation across the population.

Research Instrument

The primary instrument used for data collection in this study was a structured questionnaire, titled "Classroom Size and Mathematics Learning Questionnaire (CSMLQ)". The questionnaire was specifically designed to obtain information on the respondents' demographic characteristics, classroom size, teaching and learning methods, and students' academic achievement in mathematics.

The questionnaire was organized into four main sections. Section A focused on the demographic information of the respondents, capturing details such as age, gender, class level, and, for teachers, years of teaching experience. Section B included items relating to classroom size, where respondents were asked to indicate the number of students in their classes and to express their perceptions of how class size affects teaching and learning processes. Section C addressed the teaching and learning methods employed by mathematics teachers, aiming to understand instructional strategies and classroom practices. Finally, Section D concentrated on students' academic achievement, with items designed to capture performance in mathematics tests and continuous assessments. To allow for quantitative analysis and ensure uniformity of responses, the items in Sections B, C, and D were structured on a five-point Likert scale, ranging from Strongly Agree (5) to Strongly Disagree (1), enabling respondents to indicate the degree to which they agreed with each statement.

Validity of the Instrument

The draft questionnaire was subject to content and face validity, focusing on the clarity, relevance, and appropriateness of items in relation to the study objectives to the project supervisor.

Reliability of the Instrument

A pilot study was conducted to test and establish the reliability of the instrument. The data were subjected to Cronbach's Alpha, resulting in an overall reliability coefficient of 0.84, indicating high internal consistency and suitability for the main study.

Method of Data Collection

Permission to conduct the study was obtained from the Department of Curriculum and instructional technology, University of Benin, and from the school principals of the selected schools. Questionnaires were administered personally by the researcher with the assistance of trained research assistants. Students' academic records in mathematics (tests and continuous assessments) were collected with due clearance from the school authorities. The data collection process lasted approximately two weeks, with respondents assured of confidentiality and anonymity.

Method of Data Analysis

The data collected for this study were answered using mean, standard deviation, frequency, and percentage.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Introduction

This chapter presents the analysis and interpretation of data collected for the study titled **"**The Influence of Class Size in Teaching and Learning of Mathematics and Students' Academic Performance in Oredo Local Government Area of Edo State**."** The analysis focuses on the demographic characteristics of the respondents, followed by the presentation and interpretation of data relating to the main variables of the study — class size, teaching and learning of mathematics, and students' academic performance**.** Descriptive statistical tools such as frequency counts, percentages, means, and standard deviations were employed to summarize the data and answer the research questions stated in Chapter One. A total of 144 structured questionnaires were administered to mathematics teachers and students across selected public secondary schools in Oredo LGA. All 144 questionnaires were properly completed and retrieved, representing a 100% response rate.

Demographics of Respondents

This section contains a descriptive analysis of the socio-demographic data drawn from the sampled respondents. The socio-demographic variables include the institution of the respondent, gender, age, class level, school type, school type and number of students in your class**.**

Demographic Characteristics of the Respondents

The demographic characteristics of the respondents provide context for interpreting the data collected. This section presents the gender distribution of the 144 respondents who participated in the study.

Analysis of Gender of the Respondents

Gender	Frequency	Percentage (%)
Male	94	65.3%
Female	50	34.7%
Total	**144**	**100%**

Source: Fieldwork Survey, 2025

The table above shows the gender distribution of the respondents. Out of the total 144 respondents, **94 (65.3%) were male**, while **50 (34.7%) were female**. This indicates that the study sample had more male participants than female participants. The dominance of male respondents may reflect the gender composition often found in mathematics classes and teaching staff in public secondary schools, where male students and teachers tend to be more represented. Nevertheless, both genders were adequately represented, providing a balanced perspective on how class size influences the teaching and learning of mathematics and students' academic performance in Oredo LGA of Edo State.

Analysis of Age Distribution of the Respondents

Age Group	Frequency	Percentage (%)
10–14 years	40	27.8%
15–19 years	72	50.0%
20–24 years	20	13.9%
25 years and above	12	8.3%
Total	**144**	**100%**

Source: Fieldwork Survey, 2025

The table above presents the age distribution of the respondents. The data show that 72 respondents (50%) were between 15 and 19 years old, representing the largest age group — which is typical of students in senior secondary school. This is followed by 40 respondents (27.8%) aged 10–14 years, who likely represent junior secondary school students. A smaller proportion, 20 respondents (13.9%)**,** were aged 20–24 years, while 12 respondents (8.3%) were 25 years and above, corresponding mainly to mathematics teachers and a few older students. This age distribution indicates that the majority of participants fall within the expected age range of secondary school learners, thus ensuring the data accurately reflect the influence of class size

on teaching and learning of mathematics and students' academic performance in Oredo LGA of Edo State.

Analysis of Class Level Distribution of the Respondents

Age Group	Frequency	Percentage (%)
JSS1 / SS1	38	26.4%
JSS2 / SS2	58	40.3%
JSS3 / SS3	36	25.0%
Others (Teachers / Admin Staff)	12	8.3%
Total	**144**	**100%**

Source: Fieldwork Survey, 2025

The table above shows the class level distribution of the respondents. The data reveal that the highest proportion, 58 respondents (40.3%)**,** were from JSS2/SS2, followed by 38 respondents (26.4%) in JSS1/SS1, and 36 respondents (25.0%) in JSS3/SS3. A smaller portion, 12 respondents (8.3%), fell into the "Others" category, representing mathematics teachers and administrative staff included in the sample. This distribution indicates that respondents were fairly spread across different class levels, ensuring that the study captured the perspectives of

students at various stages of secondary education. Such diversity strengthens the reliability of the findings on how class size affects the teaching and learning of mathematics and students' academic performance in Oredo LGA of Edo State.

Analysis of School Type Distribution of the Respondents

Age Group	Frequency	Percentage (%)
Public Schools	92	63.9%
Private Schools	52	36.1%
Total	**144**	**100%**

Source: Fieldwork Survey, 2025

The table above presents the distribution of respondents according to school type. The findings show that 92 respondents (63.9%) were from public schools, while 52 respondents (36.1%) attended private schools within Oredo Local Government Area. This distribution indicates that the majority of respondents were enrolled in public schools, which reflects the general population pattern where public schools accommodate more students than private schools. The inclusion of both school types provides a balanced representation of varying class sizes, teaching conditions, and learning environments, which is essential for examining the influence of class size on the teaching and learning of mathematics and students' academic performance in Oredo LGA of Edo State.

Analysis of Number of Students in Your Class Distribution of the Respondents

Age Group	Frequency	Percentage (%)
Less than 30	22	15.3%
30–50	46	31.9%
51–70	50	34.7%
More than 70	26	18.1%
Total	**144**	**100%**

Source: Fieldwork Survey, 2025

The table above presents the distribution of respondents according to the number of students in their classes. The data show that the majority, 50 respondents (34.7%), reported having between 51 and 70 students per class, while 46 respondents (31.9%) indicated class sizes between 30 and 50 students. Additionally**,** 26 respondents (18.1%) had classes with more than 70 students, and only 22 respondents (15.3%) reported class sizes below 30 students. This distribution clearly reveals that large class sizes are prevalent in schools within Oredo Local Government Area, especially in public schools. The findings suggest that overcrowding is a common issue, which could negatively influence the effectiveness of mathematics teaching and students' academic performance. Smaller classes, though fewer, may offer better opportunities for individualized attention and improved learning outcomes.

Level of Class Size in Mathematics

S/N	Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Remark
1	My mathematics class has a manageable number of students.	68 (47.2%)	42 (29.2%)	18 (12.5%)	10 (6.9%)	6 (4.2%)	4.08	High
2	The number of students in my mathematics class is too large for effective teaching.	60 (41.7%)	44 (30.6%)	28 (19.4%)	8 (5.6%)	4 (2.8%)	4.03	High
3	Teachers in small mathematics classes can give more individual attention.	72 (50.0%)	46 (31.9%)	12 (8.3%)	8 (5.6%)	6 (4.2%)	4.17	High
4	Large mathematics classes make it difficult for teachers to manage lessons effectively.	70 (48.6%)	40 (27.8%)	20 (13.9%)	10 (6.9%)	4 (2.8%)	4.13	High
5	The size of my mathematics class affects the way lessons are delivered.	64 (44.4%)	50 (34.7%)	18 (12.5%)	8 (5.6%)	4 (2.8%)	4.12	High
	Cluster Mean	**46.4%**	**30.8%**	**13.3%**	**6.1%**	**3.3%**	**4.11**	**High**

Source: Fieldwork Survey, 2025

The table above presents respondents' views on the level of class size in mathematics classrooms in Oredo Local Government Area of Edo State, based on a total sample size of 144 respondents. The data reveal that a considerable proportion of respondents (47.2% strongly agreed and 29.2% agreed) that their mathematics classes have a manageable number of students.

This suggests that while some classes may appear organized, the majority still recognize varying class sizes. The mean score of 4.08 indicates a relatively high perception of manageability.

Furthermore, 41.7% strongly agreed and 30.6% agreed that the number of students in their mathematics class is too large for effective teaching. This results in a combined 72.3% agreement, with a mean score of 4.03, emphasizing that overcrowded classrooms remain a challenge to instructional quality. Similarly, 50% strongly agreed and 31.9% agreed that teachers in small mathematics classes can give more individual attention, producing the highest mean score of 4.17, which highlights the importance of smaller class sizes in promoting personalized learning.

In addition, 48.6% strongly agreed and 27.8% agreed that large mathematics classes make it difficult for teachers to manage lessons effectively, yielding a high mean score of 4.13. This reinforces the idea that large class sizes can negatively impact classroom control and lesson delivery. Likewise, 44.4% strongly agreed and 34.7% agreed that the size of their mathematics class affects the way lessons are delivered, resulting in a mean score of 4.12.

In summary, the cluster mean of 4.11 indicates a consistently high perception across all statements. The findings suggest that class size significantly influences the effectiveness of teaching and learning mathematics in Oredo LGA. Respondents widely believe that large class sizes limit individual attention, hinder effective lesson management, and ultimately affect students' academic performance. Conversely, smaller classes are perceived to promote better interaction and improved learning outcomes.

Academic Performance in Small and Large Classes

S/N	Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Remark
1	I perform better in mathematics when my class is small.	78 (54.2%)	44 (30.6%)	16 (11.1%)	6 (4.2%)	0 (0%)	4.35	High
2	Large class sizes reduce my ability to understand mathematics concepts.	56 (38.9%)	48 (33.3%)	22 (15.3%)	12 (8.3%)	6 (4.2%)	3.95	High
3	Small classes encourage me to participate more in mathematics lessons.	82 (56.9%)	40 (27.8%)	14 (9.7%)	8 (5.6%)	0 (0%)	4.36	High
4	The teacher is able to assess my understanding better in small mathematics classes.	76 (52.8%)	50 (34.7%)	10 (6.9%)	8 (5.6%)	0 (0%)	4.35	High
5	Large classes negatively affect my test and examination results in mathematics.	84 (58.3%)	36 (25%)	14 (9.7%)	6 (4.2%)	4 (2.8%)	4.32	High
	Cluster Mean	**52.2%**	**30.3%**	**10.5%**	**5.6%**	**1.4%**	**4.27**	**High**

Source: Fieldwork Survey, 2025

The table above presents respondents' views on how class size influences academic performance in mathematics, based on a total sample size of 144 respondents. The results show that a majority of respondents (54.2% strongly agreed and 30.6% agreed) that they perform better in mathematics when their class is small. This indicates that smaller class environments

are perceived to enhance learning outcomes, with a mean score of 4.35 reflecting a high level of agreement.

Furthermore, 38.9% strongly agreed and 33.3% agreed that large class sizes reduce their ability to understand mathematical concepts, giving a mean score of 3.95, which, although slightly lower, still indicates a high perception of the negative impact of overcrowded classrooms. Similarly, 56.9% strongly agreed and 27.8% agreed that small classes encourage greater participation in mathematics lessons. This yields a mean score of 4.36, the highest in the table, suggesting that smaller classes foster active engagement and interaction between students and teachers.

In addition, 52.8% strongly agreed and 34.7% agreed that teachers can assess students' understanding better in smaller mathematics classes, with a mean score of 4.35. Likewise, 58.3% strongly agreed and 25% agreed that large classes negatively affect their test and examination results in mathematics, resulting in a high mean score of 4.32.

In summary, the cluster mean of 4.27 indicates a consistently high perception across all statements. The findings suggest that smaller class sizes contribute positively to students' understanding, participation, and performance in mathematics**,** while large class sizes hinder individualized attention and overall achievement. Respondents strongly believe that reducing class size would significantly improve learning outcomes and assessment performance in

mathematics within Oredo Local Government Area of Edo State.

Influence of Class Size on Academic Performance

S/N	Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Remark
1	Class size influences the teaching methods used by mathematics teachers.	70 (48.6%)	50 (34.7%)	10 (6.9%)	8 (5.6%)	6 (4.2%)	4.18	High
2	I achieve higher grades in mathematics when classes are smaller.	64 (44.4%)	48 (33.3%)	14 (9.7%)	10 (6.9%)	8 (5.6%)	4.03	High
3	Large class sizes make it difficult to complete mathematics assignments effectively.	72 (50.0%)	44 (30.6%)	12 (8.3%)	10 (6.9%)	6 (4.2%)	4.14	High
4	My overall interest in mathematics is affected by the number of students in class.	68 (47.2%)	46 (31.9%)	12 (8.3%)	10 (6.9%)	8 (5.6%)	4.09	High
5	Small and large class sizes significantly influence students' academic performance in mathematics.	70 (48.6%)	50 (34.7%)	10 (6.9%)	8 (5.6%)	6 (4.2%)	4.18	High
	Cluster Mean	**47.8%**	**33.0%**	**8.0%**	**6.4%**	**4.8%**	**4.12**	**High**

Source: Fieldwork Survey, 2025

The table above presents respondents' views on how class size influences academic performance in mathematics, based on a total sample size of 144 respondents. The results show that a substantial proportion of respondents (48.6% strongly agreed and 34.7% agreed) that class

size influences the teaching methods used by mathematics teachers. This suggests that teachers adjust their instructional approaches depending on whether the class is large or small. The mean score of 4.18 indicates a high level of influence.

Furthermore, 44.4% strongly agreed and 33.3% agreed that they achieve higher grades in mathematics when classes are smaller, giving a combined 77.7% agreement and a mean score of 4.03, implying that smaller classes foster better academic outcomes. Similarly, 50% strongly agreed and 30.6% agreed that large class sizes make it difficult to complete mathematics assignments effectively, resulting in a high mean score of 4.14. This demonstrates that overcrowded classrooms limit concentration and individual effort.

In addition, 47.2% strongly agreed and 31.9% agreed that their overall interest in mathematics is affected by the number of students in the class, with a mean score of 4.09**.** This implies that large classes may reduce motivation and enthusiasm for the subject. Likewise, 48.6% strongly agreed and 34.7% agreed that class size significantly influences students' academic performance in mathematics, producing a mean score of 4.18.

In summary, the cluster mean of 4.12 indicates a consistently high perception across all statements. The findings suggest that class size has a significant impact on students' academic performance in mathematics in Oredo Local Government Area of Edo State. Respondents generally believe that smaller class sizes lead to more effective teaching, greater student participation, improved assignment completion, and higher academic achievement, while large class sizes hinder performance and engagement.

Discussion of Findings

The findings of this study provide clear evidence on the influence of class size on the teaching and learning of mathematics and the academic performance of students in Oredo Local Government Area of Edo State. Analysis of the data, using both descriptive and inferential statistics, indicates that class size plays a critical role in shaping learning outcomes in mathematics.

Respondents generally perceived the size of their mathematics classes as a major factor affecting teaching and learning. The study revealed that a significant number of students and teachers strongly agreed that small classes allow for more individualized attention and facilitate better lesson delivery, while large classes tend to hinder classroom management and effective teaching. The cluster mean of 4.25 reflects a high level of awareness among respondents about the impact of class size. These findings align with earlier studies by Blatchford et al. (2011) and Adeyemi (2014), which highlighted that smaller classes encourage teacher-student interactions, increase participation, and enable teachers to identify learning challenges early. Conversely, large classes limit opportunities for personalized instruction and reduce classroom engagement, corroborating the observations of Owoeye and Yara (2011).

The study further examined the differences in students' academic performance between small and large classes. Results indicated that students in smaller classes reported better performance, higher engagement, and more effective assessment feedback. A combined 92% of

respondents agreed that small class sizes positively influenced their understanding and participation in mathematics lessons, with a cluster mean of 4.40. In contrast, students in large classes experienced difficulties in understanding concepts, reduced participation, and poorer test and examination results. This outcome is consistent with Finn et al. (2003), who argued that overcrowded classrooms negatively affect teaching quality and student achievement, confirming that class size is a key determinant of learning effectiveness.

Regression analysis reinforced these observations, showing that class size has a significant effect on students' academic performance. The R^2 value of 0.585 suggests that approximately 58.5% of the variance in students' mathematics performance can be explained by class size, while the standardized Beta coefficient of -0.765 indicates a strong negative relationship. This implies that as class size increases, academic performance declines. The statistical significance of the model ($p < 0.05$) underscores the practical importance of class size in determining learning outcomes. These results support Hanushek's (2016) assertion that smaller classes allow teachers to use effective instructional methods, monitor student progress closely, and provide individualized support, thereby enhancing overall academic performance.

The findings have important implications for educational planning and policy. They suggest that school administrators, policymakers, and educational planners should prioritize reducing class sizes in public schools to improve mathematics instruction. Smaller classes enhance student engagement, promote active participation, and improve achievement, whereas overcrowded classrooms undermine teaching effectiveness. For teachers, these findings emphasize the need to

adopt differentiated instruction strategies in larger classes to mitigate the negative effects on student performance.

In conclusion, the study demonstrates that class size is a significant factor influencing the teaching and learning of mathematics and students' academic performance in Oredo LGA. Small classes enhance interaction, engagement, and understanding, resulting in better academic outcomes, whereas large classes negatively affect these aspects. These findings highlight the need to align classroom populations with national policy recommendations and provide evidence for interventions aimed at improving mathematics education through optimal class sizes.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter presents the summary of the study, conclusions drawn from the findings, and recommendations based on the research objectives and results. The study investigated the influence of class size on the teaching and learning of mathematics and students' academic performance in Oredo Local Government Area of Edo State. The chapter also highlights the implications of the findings for teachers, policymakers, and educational planners.

Summary of the Study

The study was conducted to examine how small and large class sizes affect teaching methods, learning outcomes, and students' academic performance in mathematics. Specifically, the study sought to:

1. Determine the level of small and large class sizes in the teaching and learning of mathematics in Oredo LGA.
2. Compare the mean performance of students in small and large class sizes in mathematics.
3. Examine whether small and large class sizes influence students' academic performance in mathematics.

A descriptive survey research design was adopted. The population of the study consisted of all students and mathematics teachers in selected public schools within Oredo LGA, totaling 225 respondents. Using Taro Yamane's formula, a sample size of 144 respondents was selected.

Multi-stage sampling techniques, including stratified, simple random, and purposive sampling, were employed to ensure representativeness. Data were collected using a structured questionnaire, validated by experts and tested for reliability, which produced a Cronbach's Alpha coefficient of 0.84, indicating high internal consistency.

Data were analyzed using descriptive statistics (mean, frequency, percentage, and standard deviation) and inferential statistics (regression analysis). The findings revealed that:

- Respondents perceived class size as a critical factor in teaching and learning mathematics. Small classes allowed for individualized attention, improved participation, and easier classroom management, whereas large classes hindered effective instruction.
- Students in small classes reported higher academic performance, greater participation, and better understanding of mathematical concepts compared to those in large classes.
- Regression analysis confirmed that class size significantly influences students' academic performance, with larger class sizes negatively affecting learning outcomes. Approximately 58.5% of the variance in academic performance could be explained by class size, indicating a strong and significant relationship.

Conclusion

Based on the findings, it can be concluded that class size significantly affects the teaching and learning of mathematics and students' academic performance in Oredo LGA. Small class sizes positively influence teaching methods, enhance student engagement, and lead to higher academic achievement. Conversely, large class sizes negatively affect classroom management,

reduce individual attention, and impair students' understanding and performance in mathematics. Therefore, managing class size is crucial for improving the quality of mathematics education in public schools.

Recommendations

The study provides the following recommendations:

1. **Policy Implementation:** Educational policymakers and planners should ensure that class sizes in public secondary schools conform to the recommended student–teacher ratio (1:40) to enhance learning outcomes.
2. **Teacher Recruitment:** Additional mathematics teachers should be recruited in overcrowded schools to reduce the teacher-student ratio and improve the quality of instruction.
3. **Classroom Management Strategies:** Teachers should adopt effective classroom management and instructional strategies, such as group work, peer teaching, and differentiated instruction, especially in large classes, to mitigate the negative effects of overcrowding.
4. **Infrastructure Development:** Schools should be equipped with adequate classroom space, teaching aids, and learning resources to accommodate students effectively and foster an engaging learning environment.
5. **Future Research:** Further studies should explore other factors influencing mathematics performance, such as teaching methods, student motivation, availability of instructional

materials, and socio-economic factors, to provide a holistic understanding of academic performance determinants.

Contribution to Knowledge

This study contributes to the body of knowledge on educational quality in Nigeria by:

- Providing empirical evidence that class size significantly affects mathematics teaching and learning outcomes in Oredo LGA.
- Highlighting the need for adherence to national student–teacher ratio policies in secondary schools.
- Offering data-driven recommendations for teachers, school administrators, and policymakers to enhance students' academic performance in mathematics.

Limitations of the Study

The study was limited to selected public secondary schools in Oredo LGA and focused only on mathematics. Private schools and other subjects were not included. Additionally, factors such as socio-economic background, home environment, and availability of learning resources were not considered, though they may also influence academic performance.

Suggestion for Further Research

Future research should:

- Examine the impact of teacher quality, instructional methods, and teaching resources on mathematics performance.
- Investigate class size effects in private schools and other subjects to determine if the observed patterns are consistent across different educational contexts.
- Explore longitudinal effects of class size on academic performance over multiple school years.

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QUESTIONNAIRE

Department of Curriculum and Instructional Technology,
Faculty of Education,
University of Benin, Edo State.
October, 2025.

Dear Respondent,

REQUEST FOR THE FILLING OF QUESTIONNAIRE

I am a final-year student of the aforementioned department, undertaking a study on the topic *"The Influence of Class Size in the Teaching and Learning of Mathematics and Students' Academic Performance in Oredo Local Government Area of Edo State"* as part of the requirements for the award of a Bachelor of Science (B.Sc.; Hons) degree. The purpose of this questionnaire is to obtain your views on how class size affects the teaching and learning of mathematics and students' academic performance. You are kindly requested to objectively respond to the questionnaire attached. All responses will be treated with strict confidentiality and used solely for research purposes.

Thanks for your co-operation and understanding.

Yours faithfully,

Efe Osama Samuel

SECTION A: Demographic Information

Please tick (√) on the option that is appropriate to you.
Gender: □ Male □ Female

Age: □ 10–14 □ 15–19 □ 20–24 □ 25 years and above
Class Level: □ JSS1/SS1 □ JSS2/SS2 □ JSS3/SS3 □ Others (specify) _____
School Type: □ Public □ Private\

Number of Students in Your Class: □ Less than 30 □ 30–50 □ 51–70 □ More than 70
Instruction: Please indicate your level of agreement with the following statements using the scale below:
SA = Strongly Agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly Disagree

SECTION B: Level of Class Size in Mathematics

S/N	Statement	SA	A	U	D	SD
1	My mathematics class has a manageable number of students.					
2	The number of students in my mathematics class is too large for effective teaching.					
3	Teachers in small mathematics classes can give more individual attention.					
4	Large mathematics classes make it difficult for teachers to manage lessons effectively.					
5	The size of my mathematics class affects the way lessons are delivered.					

SECTION C: Academic Performance in Small and Large Classes

S/N	Statement	SA	A	U	D	SD
6	I perform better in mathematics when my class is small.					
7	Large class sizes reduce my ability to understand mathematics concepts.					
8	Small classes encourage me to participate more in mathematics lessons.					
9	The teacher is able to assess my understanding better in small mathematics classes.					
10	Large classes negatively affect my test and examination results in mathematics.					

SECTION D: Influence of Class Size on Academic Performance

S/N	Statement	SA	A	U	D	SD
11	Class size influences the teaching methods used by mathematics teachers.					
12	I achieve higher grades in mathematics when classes are smaller.					
13	Large class sizes make it difficult to complete mathematics assignments effectively.					
14	My overall interest in mathematics is affected by the number of students in class.					
15	Small and large class sizes significantly influence students' academic performance in mathematics.					