


Students' perception of class size as an indicator of academic performance of senior secondary school students in Uvwie Local Government Area of Delta State, Nigeria.

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Abstract

In this study, students' perception of class size as an indicator of academic performance in Uvwie Local Government Area of Delta State, Nigeria, was evaluated. Systematic random sampling was used to select 8 secondary schools, while simple random sampling was used to select the respondents. The total student population was 6,012 and the final sample size was 312 respondents. Two research questions and hypotheses were formulated to guide the study. The quantitative approach with structured questionnaires was used for data collection. Questionnaires were distributed to the respondents, and the research questions were analyzed using the mean and standard deviation. Chi square analysis was used to test the research hypothesis at 0.05 level of significance. The result of the analyzed data showed that there was a statistically significant influence of class size and teacher-student ratio on students' academic performance in public senior secondary schools in Uvwie LGA. Majority of the respondents (73%) disagreed that students were very active in large classes than in small classes, while 85% of the respondents agreed that teachers were likely to give class exercises to students in smaller classes. On teacher-student ratio, 85% of the respondents agreed that the number of students in a class should not exceed 45. Based on the findings, it is recommended that the Government, through the secondary schools Management, build more classrooms and employ more teachers in order to reduce class size for effective teaching and learning in public secondary schools in Uvwie Local Government Area of Delta State.

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INTRODUCTION

Teaching is a complex process, as it not only conveys information to students, but also, evaluates the students' level of understanding of what is being taught, and implementation of the acquired knowledge in daily life (Lukman, 2022). The overall success of students in academics is not only a pointer to the effectiveness of teaching, but also a major determining factor in shaping the future of youths (Obiakpor & Oguejiofor, 2020). Secondary education is a very important in the development of individuals in particular and the nation in general (Kimani, Kara & Niagi, 2013). One of the indicators of quality education is the cognitive achievement of learners (UNESCO, 2005); and the medium through which the attainment of individual and national educational goals can be achieved is by learning. Learning outcomes has become a phenomenon of interest to all, and this accounts for the reason why schools have been working hard to unravel factors that militate against good academic performance (Babatunde & Olarenwaju, 2014; Aremu & Sokan, 2003). Class size is believed to be one of the several factors influencing teaching and learning in schools (Mustapha, Kkachallah & Abdulfathi, 2021).

Class size has been defined by several authors. Eboatu & Ehirim (2018) defined class size as the number of students taught by a teacher in a classroom in a given period. Adeyemi (2018) described class size as the average number of students per class in a school, while Hoffman (2016) described it as a number of students per teacher in a class. The concept of class size is therefore different from teacher-student ratio, as the latter is the link between the population of students and teachers in a school (Eboatu & Ehirim, 2018). Understanding if there is a relationship between the number of students in a classroom and the academic achievement of students is vital to educators (Vandenberg, 2012). Providing the best learning environment for all students while making the informed decisions about how best to utilize limited funding is at the centre of the class size debate (Obiakpor & Oguejiofor, 2020). Rimm-Kaufman & Sandilos (2015) noted that improving only students' relationship with teachers may not produce much gains in students' achievements, but that, students with close, positive and supportive relationships with their teachers will attain higher levels of academic achievements than those students with more conflicts than relationships. Such close relationships between students and teachers are better appreciated in small class sizes.

In Nigeria, the National Policy on Education recommends a class size of 20 for the pre-primary level, 30 for the primary level and 40 for secondary level (Federal Republic of Nigeria, 2014). However, this specification has been unrealistic in recent years. The use of large class sizes to accommodate more students in the context of inability/refusal to hire more staff or expand existing facilities, is now a common practice (Wang & Calvano, 2022). Large class size is also responsible for situations wherein students/pupils attending schools, were compelled to sit in classes with little or no space for seats or tables. Over-sized classroom thus negatively affects seating arrangements to the point where the number of students exceeds the number of seats available. Also, there is the general tendency that effective teaching will reduce, while the teachers' workload will increase, because the teacher will be unable to devote much time to each student, as will be experienced in a small-sized classroom. Large class size has been a contested issue because it is assumed to affect students' academic achievement (Abubakar *et al.*, 2023; Maringe & Sing, 2014).

The relationship between class size and academic performance has been perplexing for educators when discussing factors affecting students. Academic performance will thus require a proper look at the concept of poor performance (Chileya, 2016). Academic achievement or academic performance, as defined in the dictionary of Education by Good (1945) is the knowledge attained, or skills developed in school subjects, usually determined by test scores or marks assigned by teachers or both. It also refers to the improvement of students' overall quality during their school years. It is a direct manifestation of learning effectiveness and a valid indicator to evaluate the effectiveness of

teaching, as well as the overall development of students (Zheng & Mustapha, 2022). Several studies on class size have reported varying effect on academic performance of students. Eboatu & Ehirim (2018) showed that class size negatively affected students' academic performance in Awka Local Government Area of Anambra State, through interaction between students and teachers. Taha (2021) and Uhrain (2016) observed that large classes are often difficult for the teachers to maintain student discipline and as such, the focus of the teacher becomes more on managing the classroom environment and student behavior than on academic performance. Higher levels of interaction between students and teachers, as well as increased levels of students' engagement within smaller classes, have been cited in numerous studies (Kusi & Manful, 2019; Owoeye & Yara, 2016; Uhrain, 2016). Obiakpor & Oguejiofor (2020) in their study on impact of classroom size on academic performance of secondary school students in Enugu State, demonstrated that large class size contributed to poor performance, and also resulted in poor teaching methods, since it was difficult for teachers to show all students the instructional materials, especially those who sat at the back. From another dimension, Aturupane, Glewwe & Wisniewski (2013) were of the opinion the large class size had numerous benefits for the school, since it will help to reduce the cost of building additional classrooms. Also there is usually high energy fun and excitement in large class size in public senior secondary school. In that way, Azigwe, Kyriakides, Panayiotou & Creemers (2016) noted that students learned to work well in groups since group work was a necessity in large class size.

Statement of the problem

Following an increase in population and the need to attain basic and secondary education, the numbers of students being enrolled in public secondary schools has increased greatly. Despite this increase in number of students, there has been no corresponding expansion of existing facilities, increase in the number of teachers, amongst others. Overcrowded classes nowadays has led to a reduction in the quality of teaching, leading to low productivity in academic production. In Nigeria, the recommended student-teacher ratio in secondary schools is 1:40. However, with a teacher-student ratio of about 1:65 which is commonly obtainable, it is almost impossible for teachers to give individual attention to the students. Grading students in examinations by teachers becomes a thing of fear, considering the large number of scripts to be marked and scores recorded. Also, when the teacher's eye contact with the students in large classes becomes limited, the less motivated students tend to sit at the back of the classes and become distracted by other things.

Purpose of the study

The purpose of this study was to examine students' perception of class size as an indicator of academic performance of senior secondary school students in Uvwie local government area of Delta State, Nigeria. The purpose of the study was achieved through the following specific objectives:

1. To evaluate the influence of class size on the quality of teaching and learning among secondary school students in Uvwie Local Government Area of Delta State, and
2. To examine the influence of teacher-student ratio on the quality of teaching and learning among secondary school students in Uvwie Local Government Area of Delta State.

Research questions

This study was guided by the following research questions:

1. To what extent does class size affect teaching and learning among secondary school students in Uvwie Local Government Area of Delta State?
2. How effective is the policy guiding teacher-student ratio in secondary schools in Uvwie Local Government Area of Delta State?

Research Hypotheses

Ho₁: There is no significant influence of class size on students' academic performance in secondary schools in Uvwie Local Government Area of Delta State.

Ho₂: There is no significant influence of teacher-student ratio on students' academic performance in secondary schools in Uvwie Local Government Area of Delta State.

CONCEPTUAL FRAMEWORK

Theoretical framework

The study is premised on the Social Learning Theory (SLT) proposed by Albert Bandura in 1971. The theory postulated that learning occurs due to interaction with people. It emphasizes the importance of the environment on the social development of students, wherein they learn new behaviors' through observing other people, and by so doing, they develop new skills and acquire new information (Bandura, 1977). He studied children in order to understand how they learn from each other. His studies showed that children imitate each other because of what they see, i.e. observational learning (McLeod, 2024). This presupposes learning to be a social process, which occurs in different social institutions such as in schools (Robson, 2019).

Bandura (1977) postulated four conditions for social learning to take place. Nabavi and Bijandi (2012) summarized these four conditions to include:

- i. Attention: The person must first pay attention to the model. The more striking/different something is, the more likely it is to gain attention. Similarly, if something is seen as being prestigious or attractive, it will be easily noticed.
- ii. Retention: The observer must be able to remember the behavior that has been observed. Rehearsal is a technique for increasing this condition.
- iii. Reproduction: This is the ability to replicate the behavior that the model has just demonstrated, i.e. the observer has to be able to replicate the action, which could become a problem with a learner who is not prepared developmentally to replicate the action.
- iv. Motivation: Learners must want to demonstrate what they have learned.

This theory is relevant to the present study because, when applied to class sizes, it can have both positive and negative effects:

a. Positive Effects:

In larger class sizes, students have more peers to observe and interact with (Wang & Calvano, 2022). This can provide a rich environment for observational learning, where students can learn from the behavior and experiences of their classmates. In a smaller class size the student can easily be motivated using external rewards because the teacher has individualized attention for each student (Blatchford, Bassett & Brown, 2011).

b. Negative effects

Limited Teacher-Student Interaction: In larger classes, it can be challenging for teachers to provide individualized attention to each student (Wang & Calvano, 2022). This reduced interaction with the teacher can hinder the application of social learning theory, as students may have fewer opportunities to engage in meaningful interactions with an authoritative figure.

Reduced participation: Some students may feel overwhelmed or hesitant to participate in larger class settings. This can limit the opportunities for social learning through active participation and discussion.

Literature Review

Nowadays, class size is viewed as a phenomenon that can influence students' feelings and achievement; on administration, quality and school budgets (Chileya, 2016). Most researchers begin with the assumption that the size of a class would prove a significant determinant of the degree of success of students. Eboatu & Ehirim (2018) showed that class size affected students' academic performance in Awka Local Government Area of Anambra State, Nigeria, through interaction between students and teachers. The authors also recommended that, to aid conducive teaching learning environments, more classrooms should be built. Allen *et al.* (2013) opined that 62 students per teacher was a threshold number and, once that class size went beyond 62, learning effectively stopped. Thus as the number of students in a class was more than 62, teachers found it difficult to teach effectively and efficiently, leading to students not been able to also learn effectively. According to Amadahe (2016), one of the most essential part of teaching and learning process is assessment and evaluation of Students. Large classes call for large volume of marking to be done and feedback given to students.

Moleke & Mamokhere (2021) determined the effects of class size on the academic performance of students in Higher Education Institutes in South Africa. The authors formulated the following research question to guide their study: how does class size affect learners' performance and achievement. The authors also adopted a motivational theory called Maslow's Hierarchy of Needs to argue that academic performance is influenced by needs such as psychological, safety needs, loving and belonging, esteem and self-actualization needs, etc. The study concluded by recommending that existing infrastructure be expanded to meet the growing population. Obiakpor & Oguejiofor (2020) ascertained the impact of classroom size on academic performance of secondary school students in Enugu North local government area of Enugu State. The findings of that study revealed that large class sizes contributed to poor academic performance of students due to poor teaching methods, improper use of instructional materials in large class sizes, etc. The author recommended that school supervisors and inspectors should concentrate more on the number of students per class, and avoid overcrowded classes.

Anashie, Ebuta & Adie (2014) analysed the influence of students' population, pressure and class size on the academic performance of public secondary school students in Cross River State. Findings of their study showed student population, pressure and class size negatively affected teaching/learning, which made it difficult for teachers to administer and mark test/assignment. The authors then recommended that government at all levels should provide adequate school facilities in proportion to existing student population, and that there was the need to adhere strictly to the teacher-student ratio of 1:40 as recommended by the National Policy on Education, for effective teaching and learning in schools. Bare *et al.* (2020) carried out an evaluation of the effect of overpopulation on teaching and learning among students in junior secondary schools in Potiskum LGA of Yobe State. The findings of their study revealed that the inability of teachers to pay attention to individual students that needed special attention, lack of classroom control and management in overcrowded classrooms, and teachers' difficulties in conducting effective continuous assessments, were some of the problems faced by teachers and students in overpopulated classrooms. They concluded that smaller class sizes led to improvement in students' academic performance.

Summarily, class size significantly influences students' academic performance, as classroom with less crowded population could be easily managed and controlled by teachers, making learning easy.

On the other hand, crowded classrooms makes learning in effective and unattractive, noisy and cause fighting among students. Classroom with fewer students yielded better academic result than overcrowded classroom.

METHOD

RESEARCH DESIGN

For examining students' perception on class size as an indicator of academic performance, a quantitative survey approach (Uhrain, 2016) was used. Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check & Schutt, 2012). Quantitative surveys typically involve structured questionnaires with numerically rated items designed to gather numerical data (Ponto, 2015). In this approach, a survey was conducted using structured questionnaires to gather data on students' perception of class size and how it affects academic performance among secondary school students.

Population of the Study

The population of the study comprised all public Secondary Schools in Uvwie Local Government Area of Delta State. The population, according to the census given by the Delta State Ministry of Basic Education Warri, is comprised of 778 Teachers and 6,012 senior secondary school students from 15 public senior secondary schools in Uvwie LGA of Delta State. All senior secondary school three (SSS 3) students, numbering 1,370, were the target population in this study (Delta State Ministry of Basic Education, 2023).

Sample and Sampling Technique

A total of 8 public secondary schools were selected from the fifteen (15) available schools using systematic random sampling technique (Mustpha, Kachallah & Abdulfathi, 2021). A sample of 312 senior secondary school 3 (SSS 3) students (respondents) composed through Taro Yamane's formula, was used in this study. Simple random sampling was adopted to select 39 students from each of the previously selected eight public senior secondary schools.

Taro Yamane's formula used for calculating sample size is given by the expression below (Yamane, 1967):

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

Where n = sample size, N = total population, and e = level of significance (5 % = 0.05)

With n = ?, N = 1370,

$$n = 312$$

Research Instrument

The instrument used for data collection from the respondents was a self-designed questionnaire. The items in the questionnaire were formulated in accordance with the research questions and hypotheses. The instrument was divided into three sections; A, B and C. Section A consisted of personal data such as school, class, gender and class size; Section B contained five items structured to determine the influence of class size on the academic performance of senior secondary school students, while Section C also contained five items structured to determine the influence of teacher-student ratio on the academic performance of senior secondary school students.

Validation of the Research Instrument

The questionnaire was validated for face and content validity by giving copies of the questionnaire items to the supervisor and three (3) experts in the School of Education for scrutiny and moderation. The corrections and comments provided were used to modify the final draft of the instrument.

Reliability of the Instrument

The reliability of the instrument was determined using test-retest method. A sample of 39 students that were not included in the main study sample was used in the exercise. Copies of the questionnaire were administered on them and were scored after completion. After two weeks' interval the same questionnaire was re-administered on the same sample of 39 respondents. The scores of the first and second administration were correlated using Pearson product moment correlation statistics. The correlation coefficient gave a reliability estimate of 0.99. This indicated a substantial agreement between the two tests, thus, confirming the reliability of the instrument.

DATA COLLECTION

A total of 312 copies of questionnaire were administered by the researcher, with the assistance of some senior teachers in the selected senior secondary schools that were used for the study. All the copies of the questionnaire completed by the respondents were retrieved immediately.

The data collected for this study was analyzed using mean and standard deviation as statistical tools to answer the research questions. The chi-square statistics was used to test the null hypothesis at 0.05 level of significance. A four (4) point rating scale of Likert's type was used, with assigned values of 4, 3, 2 and 1 as options to the items on the questionnaire: strongly agreed (SA) - 4 points; agreed (A) - 3 points; disagreed (D) - 2 points; and strongly disagreed (SD) - 1 point.

The mean of the above was determined by calculating the average, using the expression below:

$$\text{Mean} = \frac{\sum fx}{n} \quad (2)$$

Where:

f = frequency

x = nominal value of option

n = number of respondents

A cut-off point was used to determine the mean as: = 2.5

This means that, any mean score equal to, or greater than 2.5 was considered as agreed response, and any mean score less than 2.5 was considered as disagreed responses.

RESULTS

Research Question 1: To what extent does class size affect teaching and learning of senior secondary school students in Uvwie LGA of Delta State?

Table 1 shows the results from respondents for the research items on influence of class size on students' academic performance. The results presented in Table 1 revealed that the sum of the mean score of items 1 - 5 (i.e. 15.82) was rated above the normative mean value of 10. Nevertheless, item 4 with mean score of 1.96 was rejected based on the 2.50 benchmark score in making decisions to accept or reject an item.

Findings from Table 1 revealed that majority of the respondents agreed that students hardly see writings on the board when seated at the back of the class, which corresponded to 84%. Similarly, a greater percentage of the respondents, corresponding to 93%, agreed that students found it difficult to concentrate due to the noisy atmospheres in large classes, which in turn affected teaching and learning ability of both teachers and students. However, 47% and 26% of the respondents strongly disagreed and disagreed that students were very active in large sized classes than in small sized classes. This shows that the students' perception on class size is that large class sizes are not conducive for learning, and has the capability to influence students' academic performance.

Table 1. Influence of class size on the quality of teaching and learning

Research item	Responses	Frequency	Percentage (%)	Mean	Standard deviation	Decision
Students hardly see writings on the board when seated at the back in a large class	SA	209	67	3.40	0.94	Accept
	A	53	17			
	D	24	08			
	SD	26	08			
	Total	312	100			
Students find it difficult to concentrate due to the noisy and stressful atmosphere in large class size	SA	234	75	3.63	0.74	Accept
	A	56	18			
	D	08	03			
	SD	14	04			
	Total	312	100			
Teachers are more likely to give more class exercises to students in smaller class size than in larger class sizes	SA	199	64	3.44	0.86	Accept
	A	65	21			
	D	34	11			
	SD	14	04			
	Total	312	100			
Students are very active in large class sizes than in small class sizes	SA	49	16	1.96	1.10	Reject
	A	37	12			
	D	80	26			
	SD	146	47			
	Total	312	100			
Students have the opportunity to cheat during class exercises, test and examinations in large class sizes	SA	191	61	3.36	0.96	Accept
	A	74	24			
	D	17	05			
	SD	30	10			
	Total	312	100			

SA - Strongly agree, A - agree, D- Disagree, SD - Strongly disagree

Research Question 2: How effective is the policy guiding teacher-student ratio in senior secondary schools in Uvwie LGA of Delta State?

Table 2 shows the results from respondents for the research items on influence of teacher-student ratio on students' academic performance. The result of the analysis as presented in Table 2 revealed that the sum of mean score of items 6 - 10 (i.e. 17.87) was rated above the normative mean

value of 10, and all items were accepted based on the 2.50 benchmark score in making decisions to accept or reject an item.

Findings from Table 2 revealed that a greater percentage of the respondents were of the opinion that the number of students in a class should not exceed 45. Similarly, 88% of the respondents agreed that inadequate learning environment and improper class size was responsible for loss of concentration by students during classes. In addition, over 90% of the respondents agreed with the item that teachers with low qualifications will not be able to adequately and effectively teach students to the required standard. This shows that from the students' point of view, teacher student ration can significantly affect teaching and learning, and by extension, the academic performance of students.

Table 2. Influence of teacher-student ratio on the quality of teaching and learning

Research item	Responses	Frequency	Percentage (%)	Mean	Standard deviation	Decision
The number of students should not be more than 40 to 45 in a class	SA	231	74	3.63	0.75	Accept
	A	59	19			
	D	08	03			
	SD	14	04			
	Total	312	100			
Merging two classes (A and B) is not good and should not be done	SA	208	67	3.50	0.83	Accept
	A	64	21			
	D	26	08			
	SD	14	04			
	Total	312	100			
Inadequate learning environment and improper class size makes the students to lose concentration from the lesson	SA	239	77	4.65	0.72	Accept
	A	51	16			
	D	10	03			
	SD	12	04			
	Total	312	100			
Supervisors are not interested in classroom size and the number of students in a class, all they are after is lesson note	SA	201	64	3.51	0.74	Accept
	A	78	25			
	D	27	09			
	SD	06	02			
	Total	312	100			
Teachers with low qualifications cannot adequately and effectively teach the students to the required standard	SA	226	72	3.58	0.80	Accept
	A	60	19			
	D	08	03			
	SD	18	06			
	Total	312	100			
	Sum of mean					

SA - Strongly agree, A - agree, D- Disagree, SD - Strongly disagree

Research Hypothesis

Ho₁: There is no significant influence of class size on students' academic performance in secondary schools in Uvwie Local Government Area of Delta State.

The result of the analysis of the research hypothesis is as presented in Table 3. The result revealed that the calculated chi square value of 507.90 is higher than the critical value of 20.52 at df 12 and 0.05 level of significance. With this result obtained, the null hypothesis, which states that there is no significant influence of class size on students' academic performance was therefore rejected. This implies that there will be a significant influence of class size on students' academic performance in Uvwie LGA of Delta State.

Ho₂: There is no significant influence of teacher-students' ratio on academic performance of secondary students in Uvwie LGA of Delta State.

The result of the analysis as presented in Table 4 revealed that the calculated chi square value of 41.26 is higher than the critical value of 20.52 at df of 12 and 0.05 level of significance. With this result obtained, the null hypothesis, which states that there is no significant influence of teacher-student on students' academic performance was therefore rejected. This implies that there will be a significant influence of teacher-student ratio on the academic performance of senior secondary students in Uvwie Local Government Area of Delta State.

Table 3. Summary of Chi square test analysis on the influence of class size on students' academic performance in secondary schools in Uvwie LGA of Delta State.

Group	O	E				x ² calculated	x ² critical	Result
SA	882	882	0	21335.2	120.94			
A	285	285	0	770	13.51			
D	163	163	0	3171.2	97.27	507.90	20.52	Significant
SD	230	230	0	12704	276.17			
Total	1560	1560	0	37980.4	507.90			

O - Observed frequency, E - Expected frequency, x² - chi square

Table 4. Summary of Chi square test analysis on the influence of teacher-student ratio on students' academic performance in secondary schools in Uvwie LGA of Delta State.

Group	O	E				x ² calculated	x ² critical	Result
SA	1105	1105	0	1018	4.60			
A	312	312	0	393.2	6.30	41.26	20.52	Significant
D	79	79	0	384.8	24.35			
SD	64	64	0	76.8	5.99			

Total	1560	1560	0	1872.8	41.26
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O - Observed frequency, E - Expected frequency, χ^2 - chi square

DISCUSSION, CONCLUSION AND IMPLICATIONS

Students' academic performance is determined by several factors such as learning resources, home-based factors and teacher-student motivation, qualification and experience of teachers, amongst others (Njoroge, Mulwa & Kiweu, 2023). One of the findings of this study was that a significant positive relationship existed between class size and students' academic performance. This implies that students from small class size would perform better than students from large class sizes. Hence, the larger the class, the lower the students' academic performance. This finding is supported by the reports of Taha (2022) and Uhrain (2016), who showed that larger class sizes were often difficult for teachers to maintain students discipline and effective teaching. In related studies, Babatunde & Olarenwaju (2014) revealed a significant relationship between class size and students' scholastic achievement; Ubah (2019) showed that students who learned in smaller classrooms performed better than those taught in larger classrooms, while Obiakpor & Oguejiofor (2020) noted that larger class sizes contributed to poor performance among secondary school students, since it was difficult for teachers to show all students the instructional materials, especially those that sat at the back of the class. In the same vein, Adeyemi (2008) opined that schools with smaller class sizes obtained better results than schools with large class sizes, while Nyiam (2012) showed that overcrowded classrooms led to overcrowded examination halls, creating an easy avenue for students to indulge in examination malpractices. These findings indicate that adherence to the Nation's educational policy on class size, i.e. 40 students per class in the secondary schools, will significantly improve the academic performance of students. The results of this study however, are in contrast with those of Aturupane *et al.* (2013) and Azigwe *et al.* (2016), which revealed that students in large class sizes usually had high energies, fun and excitement, which made students learn to work well in groups, since group works were necessities in large classes. In a similar study, Mustapha *et al.* (2021) indicated that class size did not have any significant impact on the academic performance of students. Based on the findings from this study, the first hypothesis, which stated that there is no significant influence of class size on students' academic performance in secondary schools in Uvwie LGA of Delta State was therefore rejected.

On the second research question on the influence of teacher-student ratio on the academic performance of students in senior secondary schools in Uvwie LGA of Delta State, the results revealed that students were of the opinion that teacher-student ratio had a significant influence on academic performance. Large class sizes lead to a high teacher-student ratio, and the unbalanced interaction derails and interferes with the effectiveness of the teachers and the actual instructional process (Peter and Ligembe, 2022). According to Johnson (2011), in schools with smaller student teacher ratio, teachers usually have dedicated time to spend with individual student and check their academic progress, while Malitano & Chibomba (2019) opined that students of well-staffed schools performed better academically compared to students of understaffed schools. The findings in this study are in line with those of Evarist (2018) who ascertained that a low teacher-student ratio allowed for adequate teacher-student relationship and also, for the teacher to give appropriate attention to the students. The findings of this study are also in line with those of Mahlo (2015), who agreed that a high teacher-student ratio made teachers not to give adequate attention to the students. Although, Koc & Celik (2015), via a non-experimental study suggested that hiring more teachers in order to decrease the student-teacher ratio may be expensive and may not improve the academic achievement of students, a decreased student-teacher ratio will ultimately decrease the teachers' workload and make them more zealous about their jobs. According to Malitano &

Chibomba (2019), the consequence of high student-teacher ratio in schools include low levels of attention to individual students, inability to effectively carry out practical sessions, decreased attention by students due to distractions from other classmates, amongst others. Also, Njoroge *et al.* (2023) noted that a high student-teacher ratio often led to congested classrooms, which made it difficult to manage the classrooms, especially with respect to students' discipline, checking students' notes and assignment, marking examination scripts, amongst others. Hence, teachers were less focused on the needs of individual students, especially slow learners, which ultimately affected their academic performance negatively. Similarly, an increasing number of student enrolment without a corresponding increase in the number of teachers, which leads to an increases student-teacher ratio, have led to compromise on the efficacy of teaching, and this is one of the many reasons for the poor quality of education in many schools in developing countries (UNESCO, 2000). In addition, one of the greatest consequences of a high student-teacher ratio is that the class will spend more time for the less academic students to assimilate what is being taught, , thereby delaying progress in covering the curriculum in ample time (Malitano & Chibomba, 2019). Based on the findings of this study, the second hypothesis, which stated that there is no significant influence of teacher-student ratio on students' academic performance in secondary schools in Uvwie LGA of Delta State was therefore rejected.

The results of this study indicated that a small class size will positively influence the academic performance of senior secondary school students in Uvwie Local Government Area of Delta State. The results of this study further revealed that a low teacher-student ratio will have a positive influence on the academic performance of senior secondary school students in Uvwie Local Government Area of Delta State. Based on the findings of this study, it can be concluded that from the students' view on academic performance, large class size is a major contributory factor to poor academic performance, as it will result in poor teaching methods, and instructional materials will be not used properly. Also, a low teacher-student ratio will help the teachers to provide individualized attention to the students. In order to improve students' academic achievement, the government is encouraged to build more classrooms and employ more teachers in order to reduce class size and teacher-student ratio in public secondary schools, and also make technological devices available for teaching.

AUTHOR CONTRIBUTION

- F.O. Iniaghe made substantial contributions to conception and design, data acquisition, analysis and interpretation of data
- C. Osiobe revised the manuscript critically for important intellectual content.

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