

Impact of Classroom Size on Academic Performance of Secondary School Students in Enugu North Local Government Area of Enugu State, Nigeria

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Abstract

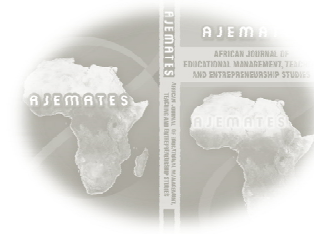
The main purpose of this study is to examine the impact of classroom size on academic performance of secondary school students in Nigeria. The specific objectives studied include the following: To investigate the effect of class size on the educational performance of secondary school students, to determine the extent to which the class size affects the manner in which teaching and learning is mediated in secondary schools. The research design used in this study is the survey research design. The design of the study was carefully carried out to suit the purpose of the research project using primary source of data. The population of this study consists of teachers in public secondary schools in Enugu North Local Government Area. The population, according to the census figure released by the Post Primary School Management Board (PPSMB) in 2015 is given as, nine (9) secondary schools in Enugu north LGA, seven hundred and sixty one (761) teachers. (PPSMB 2015), Data treatment method was by use of tables. Based on the findings of this study, this study concludes that large class size contributes to poor academic performance, it results to poor teaching methods, instructional materials are not used properly in a large class size because, it is very hard for the teacher to show the students the instructional material especially those at the back. Some of the recommendations made in the study include that; Policy makers should consider as a matter of priority the issue of increased funding of secondary school education in Nigeria. Increased funding will help to ameliorate problems facing academic performance in secondary schools, School supervisors and inspector should concentrate more on the number of students in each class and avoid overcrowding in classes.

Keywords: Classroom Size, Academic Performance, Classroom Management.

Introduction

Qualitative education remains the fulcrum for global development and freedom.

Therefore all hands must be on deck worldwide to formulate policies that will enhance qualitative education right from



elementary school to tertiary institution, and continuous, effective monitoring must be well established to check all factors that may frustrate this global pursuit. Hence, most societies require children to attend school for a specified number of years or until they reach a certain age. Many of the benefits of schooling occur in part because students learn some new knowledge or skills that enhance their ability to communicate, solve problems, and make decisions.

Academic achievement of students especially at the secondary school level is not only a pointer to the effectiveness of schools but a major determinant of the future of youths in particular and the nation in general. The medium through which the attainment of individuals and the nation's educational goals can be achieved is learning. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working hard to unravel factors that militate against good academic performance Nwankwo, (2019).

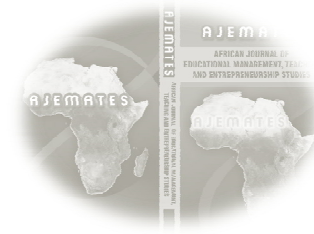
The evident recurring failures in external examinations conducted by National Examination Council (NECO) and West African examinations Council (WAEC) and subsequent low performance of undergraduates in universities in Nigeria and West Africa in general are largely traced back to poor attitudes of the secondary school students. Various factors are suspected to be responsible for these

ugly developments, one of such factors is class size.

Class size as defined by Adeyemi (2018), is an educational tool that can be described as an average number of students per class in a school, while Hoffman (2010) described it as the number of students per teacher in a class. Ogbu (2019) described it as a tool that can be used to measure performance of the education system. A lot of argument has gone on the impact of class size on performance, some fingering over-bloated class size as the main factor responsible for falling standard of education, most especially in the elementary or secondary level of education in Nigeria, however others see this as mere coincidence seeing other factors as being responsible. Effect of class size on the students' academic performance has been reported. However, it is expected that a strong relationship exists between students' attitudes and performance but the impact of class size on the former has not much been investigated. Hence, the purpose of this research.

Statement of the Problem

In most of our secondary schools in Nigeria today, the teacher–student ration has gone far beyond the stipulation of the national policy on education. Students stay more than fifty in each class, seating arrangement are altered, thereby making teaching and learning difficult. Educational planners in Nigeria have attributed the over bloated



class size due to the explosion of the population of children of school age.

Research Question

1. To what extent does class size affect teaching and learning of computer science in Enugu North Local Government Area of Enugu State?
2. How effective is the policy guiding teacher-student ratio in secondary school classes in Enugu North Local Government Area of Enugu State?

Literature Review

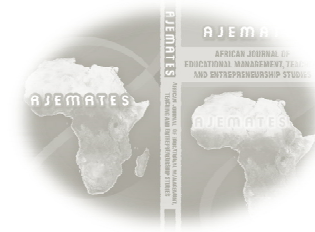
Concept of class size

Understanding if there is a relationship between the number of students in a classroom and the academic achievement of the students is vital to educators. Providing the best possible learning environment for all students while making informed decisions about how to best utilize limited funding is at the center of the class size debate (Gilman & Kiger, 2013). Stakeholders at all levels of education need empirical data regarding the significance of the relationship between class size and academic achievement. This is especially true in rural, economically disadvantaged areas where funding is even more limited than in more affluent areas. Unfortunately, making the decision of whether or not to decrease the number of students within the classroom to increase academic achievement is one that is only confounded by the abundance of contradictory studies into the topic (Addonizio & Phelps, 2010; Biddle & Berliner, 2012; Milesi&Gamoran,

2016; Slavin, 1989). To provide a baseline understanding of the research that has been conducted regarding class size and academic achievement, historical data as well as a review of the major educational studies will follow.

Historical Background of Class Size

The need to determine whether a relationship exists between class size and student academic achievement is one that can be traced back to the foundation of the educational system in America (Biddle & Berliner, 2017). According to Callahan (2018), the need for educational administrators to become more efficient and effective in the expenditure of educational funds was one of the reasons for the initial studies regarding class size. Superintendents at the beginning of the twentieth century sought to apply Frederick Taylor's scientific management principles within the world of education; thus, per-pupil costs were analyzed and class sizes adjusted to maximize cost ratios (Callahan, 2018). William McAndrew of Chicago was one such superintendent who not only analyzed the cost effectiveness of staffing smaller class sizes but also conducted his own scientific studies in order to provide empirical data in support of his larger classes, leading to the evolution of a formula method for determining the appropriate instructional workload for teachers that would establish the class size norms found in many districts today (Callahan, 2018).



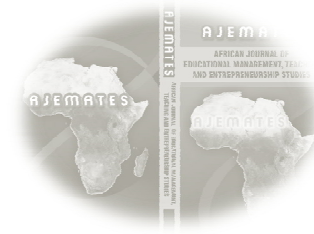
With the need of educational leaders to justify the increasing of class sizes, descriptive analysis studies summarizing the results of class size studies were abundant well into the mid-twentieth century with the majority of the results indicating a positive relationship between smaller class sizes and student academic achievement within the elementary grades (Robinson, 2010). However, it was not until the research of Glass and Smith (2019) that it was determined a class size of fifteen or less students was optimum for increasing academic achievement, especially for elementary students who were at risk of not achieving at or above the norm. The Glass and Smith meta-analysis included 77 class size studies spanning 70 years of research in a dozen countries with approximately 900,000 students whose average age was 12.3 years. Following the use of quantitative academic achievement data to evaluate the relationship between class size and academic achievement, educational researchers implemented survey research to provide evidence to what extent class size is related to academic achievement (Biddle & Berliner, 2017). Survey research provided qualitative and anecdotal data regarding stakeholders' perceptions about class size, but the data was inconclusive in its results, and variables like socio-economic status and peer groups were often cited as more important in determining student academic achievement than class size (Flemming, Toutant, & Raptis, 2012).

Economist Eric Hanushek (2016) would subsequently dissect the findings of previous class size researchers and determine that any positive results for smaller class sizes would be the result of flawed research. Hanushek argued that smaller class sizes had no or little to no effect on academic achievement for students using his own studies into the practice. Hanushek's use of a student-to-teacher ratio for determining class size instead of the actual number of students assigned to each teacher was later criticized by other researchers (Biddle & Berliner, 2012; Gilman & Antes, 2015).

Class Size and Classroom Management

Historical information about class size in this country helps educational leaders understand why the need to justify per pupil expenditures became an issue. Previous research regarding class size focused on the relationship between class size and the instructional technique utilized by teachers within differing class sizes and provided data regarding how class size affects the instructional practices of teachers. To really understand how class size affects the instructional environment, educational leaders must also analyze the amount of time teachers have to spend on classroom management as this directly affects the amount of time teachers are able to devote to instruction.

From teacher survey and interview data, Blatchford, et al. (2017) and Cakmak (2019) found that larger classes are often

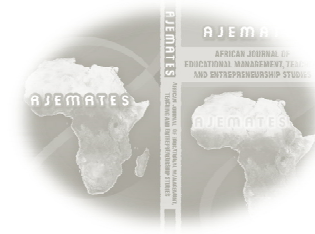


cited as being harder for the teachers to maintain student discipline, resulting in the focus of the classroom environment being more on student behavior than on student academic achievement. Blatchford, Edmonds, and Martin (2013) observed that students in smaller classes (average of 19 students per class) exhibited more time being utilized for instructional purposes and less time being utilized for non-instructional purposes, such as talking to one's peers about non-academic topics, than students in larger classes (average of 32 students per class). Halbach, Ehrle, Zahorik, and Molnar (2011) found that larger classes prevented teachers from being able to provide in-depth content coverage due to the loss of instructional time occurring since the teachers were spending more time handling student behavior issues. Not only do teachers cite smaller classes as having less discipline problems than larger classes, but they also stated that the more intimate environment of smaller classes enabled them to prevent behavior management issues from developing through the personal relationships they were able to develop with their students (Egelson, Harman, & Achilles, 1996; Halback et al., 2011).

Theoretical Framework

The theoretical framework for this study is the minimization of negative externalities (i.e., problematic behavioral and academic characteristics of students) achieved through the mechanism of smaller class

size (Ready, 2008), which impacts student learning. The effectiveness of class size reduction (CSR) is based on the idea that reducing the number of students in a classroom alters the entire classroom environment, creating a more positive learning environment. Pritchard (1999) stated that the student teacher dynamic, student-student dynamic, and teacher-parent dynamic are all improved in smaller classrooms. In addition, teachers have more time, resources, and incentive to create improved lesson plans with greater levels of differentiation. Pritchard (1999) stated that after being assigned into smaller classes, teachers reported that students received more individualized attention. Teachers got to know individual students better and kept track of individual student progress. In turn, students became more engaged because of this increased, personalized learning environment. Additionally, teachers spent less time on classroom management, which offered additional instructional time for all students in the classroom. Din (1999) confirmed that in smaller classes, students received more individualized help from teachers. Blatchford, Bassett, and Brown (2011) conducted a study at both the primary and secondary school level and found that in larger classes, student interaction with teachers decreased, which resulted in a lower level of student engagement confirming Pritchard's theory. Englehart (2007) and Fan (2012) confirmed that in smaller classes, time spent on classroom



management was decreased which led to improvement in academic achievement.

Research Method

The research design for this study is the survey research design. This research design approach is concerned with drawing up a set of questions on various subjects or on various aspects of a subject to which selected members of a population are requested to react (Enebe 2012).

The area of study selected by the researcher includes all the public/government owned secondary schools in Enugu North Local

Analysis and Data Presentation

Research Question One

To what extent does class size affect teaching and learning of secondary school students in Enugu North Local Government Area of Enugu State?

Government Area. The schools according to the data released by the Post Primary School Management Board (PPSMB 2015)

The population of this study consists of teachers in public secondary schools in Enugu North Local Government Area.

The sample size of this study is one hundred and twenty (180) respondents. The study adopted the simple sampling technique which was applied by sampling 20 teachers each from nine (9) secondary schools.

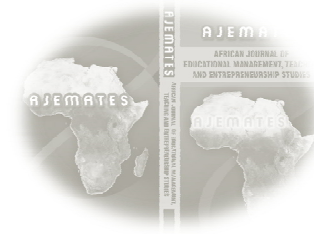
The instrument used for data collection was questionnaire.

Table 1: Mean responses on the extent Class-size has affects teaching and learning in secondary schools in Enugu North Local Government Area N= 180

S/n	Items	Mean	Decision
1	Large class size influences your frequency of participation in class as a teacher	3.56	Agreed
2	The students' population in your class negatively affects your attitude to teach	3.29	Agreed
3	Small class size affect students' academic performance positively	3.15	Agreed
4	Large class is always noisy	2.98	Agreed
5	Classroom management is always difficult	2.77	Agreed
	Grand Mean	3.15	Agreed

Source: researchers Computation 2020

Table 1 shows the presentation and analysis on the factors responsible for poor academic performance in secondary schools in Enugu North Local Government Area. The mean analysis shows a high mean 3.56, 3.29, 3.15, 2.98 and 2.77 for items 1 to 5 respectively. The decision implies that Large class size influences your frequency of participation in class as a



teacher, the students' population in your class negatively affects your attitude to teach and learn, Small class size affect students' academic performance positively, inadequate learning environment and class size also teachers' qualification. This is affirmed by the ground mean of 3.15.

Research Question Two

How effective is the policy guiding teacher-student ratio in secondary school in Enugu North Local Government Area of Enugu State

Table 2: Mean responses on how effective is the policy guiding teacher-student ratio in secondary school in Enugu North Local Government Area of Enugu State. N = 180

S/n	Items	Mean	Decision
6	The number of students in a class should not be more than 40 to 45 in a class	2.85	Agreed
7	Merging two classes (A and B) is not good and not be done in anyway.	3.01	Agreed
8	Supervisors are not interested in classroom size and number of students in the class, all they are after is lesson note	2.88	Agreed
9	Inadequate learning environment and improper class size makes the students to lose concentration from the lesson	2.68	Agreed
10	Teachers with poor qualification cannot adequately and effectively teach the students to the required standard.	2.79	Agreed
	Grand Mean	2.84	Agreed

Source: Researchers Computation2020

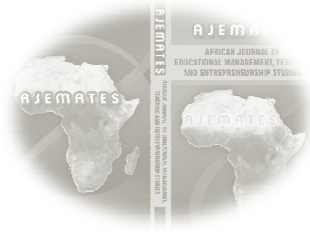
Table 2 shows the responses on how the factors affect academic performance in secondary schools. The respondents agreed to the items implying that National policy on education approved 40 to 45 students per class, Merging two classes (A and B) is not good and not be done in anyway, Supervisors are not interested in classroom size and number of students in the class, all they are after is lesson note, inadequate learning environment and improper class size makes the students to lose concentration from the lesson, teachers with poor qualification cannot adequately and

effectively teach the students to the required standard.

Summary of Result

The following were summarized from the findings above

1. Identified the extent Class-size has affects teaching and learning in secondary schools in Enugu North Local Government Area. The decision implies that Large class size influences your frequency of participation in class as a teacher, the students' population in your class negatively affects your attitude to



teach and learn, Small class size affect students' academic performance positively, inadequate learning environment and class size also teachers' qualification. This is affirmed by the ground mean of 3.15 the extent Class-size has affects teaching and learning in secondary schools in Enugu North Local Government Area.

2. How effective is the policy guiding teacher-student ratio in secondary school in Enugu North Local Government Area of Enugu State. The respondents agreed to the items implying that National policy on education approved 40 to 45 students per class, Merging two classes (A and B) is not good and not be done in anyway, Supervisors are not interested in classroom size and number of students in the class, all they are after is lesson note, inadequate learning environment and improper class size makes the students to lose concentration from the lesson, teachers with poor qualification cannot adequately and effectively teach the students to the required standard.

Conclusion

The study concludes that large class size contributes to poor academic performance, it results to poor teaching methods, instructional materials are not used properly in a large class size because, it is very hard for the teacher to show the students the instructional material especially those at the back. Also most times the teacher always get

tired after walking around the class once, Classroom management is always hard, National policy on education approved 40 to 45 students per class, Merging two classes (A and B) is not good and not be done in anyway, Supervisors are not interested in classroom size and number of students in the class, all they are after is the lesson note, inadequate learning environment and improper class size makes the students to lose concentration from the lesson.

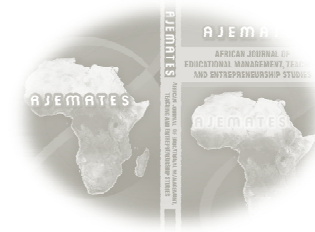
Recommendations

From the conclusion above, the study recommends that:

1. Policy makers should consider as a matter of priority the issue of increased funding of secondary school education in Nigeria. Increased funding will help to ameliorate problems facing academic performance in secondary schools.
2. School supervisors and inspector should concentrate more on the number of students in each class and avoid overcrowding in classes.

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