

# CLASS SIZE AND GENDER AS DETERMINANT OF STUDENTS' PERFORMANCE IN ELECTRICAL COURSES IN COLLEGES OF EDUCATION IN LAGOS STATE

Satilehin John Agbejoye<sup>1</sup> & Sunday Oke<sup>2</sup>

<sup>1,2</sup>Department of Electrical/ Electronics  
Federal College of Education (Technical) Akoka, Yaba, Lagos, Nigeria  
Email: <sup>1</sup>[agbejesujohn@yahoo.com](mailto:agbejesujohn@yahoo.com); <sup>2</sup>[gabrielsoke@gmail.com](mailto:gabrielsoke@gmail.com)

## ABSTRACT

The study was Class size and gender as determinant of students' performance in Electrical Courses in Colleges of Education in Lagos State. Three questions guided the study. The study used descriptive survey research design and questionnaires were used for data collection. And the sample of the study comprises of 142 which was drawn from two Colleges of Education as follows: Adeniran Ogunsanya College of Education (ACOED) - sixty-three (63) and Federal College of Education (Technical) (FCE (T)) Akoka –seventy- nine (79). The data collected was analysed using Paired sample t- test. The research findings revealed that there was significant different in the mean score rating of the students' gender and their performance in the Electrical courses in Colleges of Education in Lagos State. And there was significant different in the mean score rating of the students' class population and their performance in the Electrical courses in Colleges of Education in Lagos State. It was recommended that there should be gender equality and the class size should be moderate in the learning of the Electrical courses in the Colleges of Education in Lagos State, as these have significant effect on the students' performance.

**Keywords:** Vocational Technical Education(VTE), Electrical courses, Academic Achievement, Class size, Gender

## Background to the Study

Education is considered the first step for every human activity as it plays a vital role in the development of human capital as well as an individual's well-being and opportunities for better living. Vocational Technical Education (VTE) is a programme of study designed to equip students with practical skills in different occupational fields including Electrical courses which help students to become self-reliant in the face of paucity of paid employment. VTE is a program of instruction offered at different levels of the education system to prepare people for specific jobs, crafts and careers at various levels. Akaninwo (2004) defined it as a type of education designed to prepare the recipients to be self- reliant. Contributing, Uwaifo and Uwaifo (2009) and Ordu (2012) defined the programme as that type of education designed to prepare individuals for gainful employment as semi- skilled or skilled workers or to advance the proficiency of individuals relative to their present or future occupations. And Electrical department is a branch of VTE where Electrical courses are offered in order to prepare individual for self- reliance which is the aim of Education in Nigeria. These courses are designed for skill acquisition for gainful employment.

Academic achievement or performance is used in the school to refer to students' success in learning specified curriculum content as revealed by continuous assessment and examination. According to Ali (2013), academic achievement is a measure of the degree of success in performing specific tasks in a subject or area of study by students after a learning experience. It is the outcome of education that indicates how well a student or class of students is doing academically. Academic achievement is a major issue to teachers, students, parents and guardians as well as other stakeholders in the education industry. This concern cuts across all school subjects and all levels in the education system including primary, secondary and tertiary. A high academic achievement for any class of students is an indication of teaching/learning effectiveness while poor academic achievement, on the other hand, is an indication that the teaching/learning process is everything but effective.

Class size is a popular concept in educational research defined as the average number of students per class, calculated by dividing the number of students enrolled by the number of classes. Hoffman (1980) described it as the number of students per teacher in a class. Adeyemi (2008) expressed it as an educational tool that can be used to describe the average number of students per class in a school. It is often simply considered as the respective population of students in each class. Various researchers have established its strong relationship with students' academic performance. Kedney (1989) saw it as a tool for measuring the performance of educational system. Different researchers (Adeyela, 2000; Adeyemi, 2012; McKeachie, 1980) have reported that large class sizes have negative effect on academic task. Idienumah (1987) has included that class size ranks amongst the most important

factors that have strong and direct influence on academic performance of schools. Similarly, Alebiosu (2000) and Oderinde (2003) have reported that students in small classes have greater achievement level than those in large classes. Kolawole (1982) established an inverse correlation between class size and student's achievement concluding that the larger the class, the lower the student's achievement. As school population increases class sizes also increase, the performances of students become an issue. According to Dror (1995), class size has become a phenomenon often mentioned in the educational literature as an influence on pupil's feelings and achievement, on administration, quality and school budgets. The first issue that calls for immediate clarification is what number of students should constitute a large group and what should be described as a small group? In describing a small group, Bray (1990) observed that they have few teachers with small pools of talent; offer limited range of subjects and characteristically finding it hard to justify costly investment on libraries... their pupils lack competition and interest with relatively few peers as they get stucked with same teacher for an entire school career.

Gender is the range of physical, biological, mental and behavioural characteristics pertaining to and differentiating between masculinity and femininity (Haig, 2004 as cited in Unity and Igbudu(2015). Depending on the context, the term may refer to biological sex (i.e. the state of being male, female or intersex), sex based social structure (including gender roles and other social roles) or gender identity (Udry, 1994). Gender issues are currently the main focus of discussion and research all over the world, Nigeria inclusive. The question of gender is a matter of grave concern especially among academics and policy formulators. Intellectuals are worried about the role of male and female in the psychological, political, social, economic, religious, scientific and technological development of nations. Gender role differentiations are also encouraged in pictorial illustrations in textbooks which usually portray males as doctors, lawyers, engineers, professors while the females are seen as nurses, cooks, mothers etc. this creates mental picture in the mind of the readers of the role expectation from the society (Umo, 2003, Bobajide 2010). Teachers also encourage gender stereotype by giving different treatment to males and females in class. Teachers got further to give different career guidance to males and females. Homes are not let out as responsibilities are assigned differently to males and females; the society frown at seeing a male cooking or a female climbing a tree. The males are also assigned leadership positions and the females are to assist or to follow. Nigeria since she gained her independent had never produced a female president or governor.

### **Statement of the Problem**

The poor funding of education in Nigeria does not enable the school system to have manageable class sizes since free education for all was advocated for, adequate student classroom space, appropriate class utilization rates, bias in gender treatment in the schools has made the works of the lecturers to be tedious. Yet it has not been given necessary consideration as to how to tackle these problems. This has enhanced poor performance of the students as a result of over utilization of the available facilities in the tertiary institutions and there has been gender in-balance in the students' performance. Hence, this study is interested in the investigation of the class size and gender as determinant of students' performance in Electrical courses in Colleges of Education in Lagos State

### **Purpose of the Study**

1. To determine the influence of gender on the students' performance in the Electrical courses in College of Education in Lagos State.
2. To determine the impact of the class population on the students' performance in the Electrical courses in College of Education in Lagos State.
3. To determine the relationship between gender, class population and the students' performance in the Electrical courses in College of Education in Lagos State.

### **Research Questions**

1. What influence does the students' gender have on the students' performance in the Electrical courses in Colleges of Education in Lagos State?
2. What impact does the class population have on the students' performance in the Electrical courses in Colleges of Education in Lagos State?
3. What relationship has the gender and class population on the students' performance in the Electrical courses in College of Education in Lagos State?

### **Research Hypotheses**

1. There is no significant difference in the mean score rating of the students' gender and their performance in the Electrical courses in College of Education in Lagos State.
2. There is no significant difference in the mean score rating of the students' class population and their performance in the Electrical courses in College of Education in Lagos State.

## **METHODOLOGY**

The descriptive survey design was adopted for the study. The targeted population of the study comprised of all the students in the Department Of Electrical/ Electronic from Federal College of Education (Technical) FCE (T) Akoka and Adeniran Ogunsanya College of Education (AOCED) in Lagos State. Simple random sampling technique was used in selecting the sample of this study, consisting of one hundred and forty-two (142) students. Research instrument used for this study was questionnaire. The instrument was validated by three experts in the school of Technical Education. The instrument was reviewed based on their recommendations.

## RESULTS

**Table 1** Showing the Paired Samples Statistics on the relationship of the students' gender and class population on the students' performance

		Mean	N	Std. Deviation	Std. Error Mean	Correlation	Sig.
Pair 1	Gender	1.79	142	.410	.034	.128	.129
	Achievement	67.36	142	9.031	.758		
Pair 2	Class population	4.18	142	.957	.080	.007	.933
	Achievement	67.36	142	9.031	.758		

Table 1 above show that the gender has both its mean and standard deviation to be 1.79 and 0.410 respectively; while Achievement mean and the standard deviation are given as 67.36 and 9.031 respectively. However, the class- population has a mean value and standard deviation given as 4.18 and 0.957 respectively. The number of participants in each condition (N) was 142.

**Table 2:** Paired sample Test

		Paired Differences			95% Interval Difference	Confidence of the	T	df	Sig. (2 tailed)
		Mean	Std. Deviation	Std. Error Mean					
Pair 1	Gender	-65.570	8.988	.754	Lower -67.062	Upper -64.079	-86.933	141	0.000
	Achievement								
Pair 2	Class population	-63.176	9.075	.762	-64.682	-61.670	-82.955	141	0.000
	Achievement								

From this table 2 the t statistic for the relationship between the gender and students' performance in Electrical courses in Colleges of Education,  $t = -86.933$ , and  $p = 0.000$ ; that is, a very small probability of this result occurring by chance, under the null hypothesis of no difference. The null hypothesis is rejected, since  $p < 0.05$  (in fact  $p = 0.000$ ). The 95% Confidence Interval is (-67.062; -64.079). This confirms that, although the difference in marks is statistically significant, it is actually relatively small. There is no significant difference in the mean score rating of the students' gender and their performance in the Electrical courses in Colleges of Education in Lagos State was rejected.

From the table 2, the t statistic for the relationship between the class population and the students' performance in Electrical courses in Colleges of Education,  $t = -82.955$ , and  $p = 0.000$ ; that is, a very small probability of this result occurring by chance, under the null hypothesis of no difference. The null hypothesis is rejected, since  $p < 0.05$  (in fact  $p = 0.000$ ). The 95% Confidence Interval is (-64.682; -61.670). This confirms that, although the difference in marks is statistically significant, it is actually relatively small. There is no significant difference in the mean score rating of the students' class population and their performance in the Electrical courses in Colleges of Education in Lagos State was rejected.

## DISCUSSION

Evidence from the research findings revealed that there was significant difference in the mean score rating of the students' gender and their performance in the Electrical courses in Colleges of Education in Lagos

State. And this affirmed to the truth that the students' gender have significant relationship with their performance in the Electrical courses in Colleges of Education in Lagos State. This finding agreed with Agboola (2006), Owolabi and Ekuk-Irien (2009), Zember and Blume (2011), among others who reported that age and gender have effects on academic achievement of students in Mathematics, science and ICT. While this result contradicted the findings of Fabunmi (2004) and Dania (2014) that students' performance is not determined by gender in terms of the interaction of gender and treatment on students' academic achievement.

There is significant difference in the mean score rating of the students' class population and their performance in the Electrical courses in Colleges of Education in Lagos State. It is clear that the class population of the students have significant relationship with the students' performance in the Electrical courses in Colleges of Education in Lagos State. This study agreed with the works by (Adeyela, 2000; Adeyemi, 2012; McKeachie, 1980) that reported that large class sizes have negative effect on academic task, while small class size have positive effect on the academic task.

## CONCLUSION

Conclusively, the study attempted to find out how the gender and the class size affects the students' performance in Electrical courses in the Colleges of Education in Lagos State. And this discovered that both the gender and the class size have significant effect on the students' performance in Electrical courses in Colleges of Education in Lagos State.

## Recommendations

Based on the findings of the study, the following recommendations were made:

- There should be gender equality in the learning of the Electrical courses in the Colleges of Education in Lagos State, as this have significant effect on the students' performance;
- No gender of the students should be under rated for the learning of Electrical Courses in the Colleges of Education in Lagos State;
- The population of the students in the class should moderately small in order to expect better performance in Electrical courses in the Colleges of Education in Lagos State.

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