

Influence of Student-Teacher Ratio on the Academic Performance of Public Primary School Pupils in Odeda Local Government Area, Ogun State

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Abstract

This study examined the effect of student-teacher ratio on the academic performance of the primary school students in Odeda Local Government Area of Ogun State. Descriptive survey research design using 118 randomly selected primary school teachers was employed for this study. The research instruments encompassed a structured questionnaire addressing the socio-demographic and a secondary data of the students' academic performance. Descriptive statistics was used to analyse the demographic data while simple linear regression was applied to test the two formulated hypotheses at 0.05 level of significance. Results showed that there is a significant effect of student-teacher ratio and the academic performance ($t = 7.786, p < 0.05$). Also that, age has a significant effect on the result with age indicating less than 20 years old ($t = 4.053, p < 0.05$); 21 – 30 years ($t = 7.030, p < 0.05$), 31 – 40 years ($t = 6.632, p < 0.05$) and 50 years and above ($t = 2.446, p < 0.05$). However, there was a significant effect of student-teacher ratio on the academic performance of male pupils ($t = 5.895, p < 0.05$) but a non-significant effect of student-teacher ratio on the academic performance of female pupils ($t = 1.004, p > 0.05$). It was therefore, recommended among others, that the State Educational Planners and Policy Makers pay prompt attention to this student – teacher issue, and as well take drastic measures of improving the student-teacher ratio by adopting synergic relationship of both educational administrators and Parent-Teachers Association body in employing more competent teachers for better students' academic performance.

Keywords: Academic Performance, Student-Teacher Ratio

Introduction

Quality education has multiple benefits as higher levels of academic achievement is associated with higher earnings and economic mobility, better health, lower mortality rates, and greater participation in the leadership process in one's immediate and the global community. Education is considered as an instrument of great effects on both national economy and individual financial income. Thus, education may be considered as an important tool for economic growth of the nation. Similarly, academic performance of students is the yardstick for testing educational quality of a nation, declared Nwokocha and Amadike (2005). Improving the academic performance and quality basic education remains the pivot for global development and freedom. The Government introduced Education Sector Reforms (ESR) and National Plan of Action (2001-2015) for the improvement of quality of Education by upgrading the states of various inputs like revision of curricula, teacher training and provision of better facilities in the public sector schools. Nevertheless, availability of qualitative basic education to all pupils is faced with numerous challenges in most developing countries including Nigeria (Mmbaga, 2002).

In an attempt to put sound education on a right course, many factors have been incriminated as being responsible for falling standard of education. Among such factors is the issue of 'student-teacher ratio'. Kezar (2006) described student-teacher ratio as a tool that can be used to measure performance of the education system. A lot of argument has occurred on the impact of 21st century student-teacher ratio on students' performance. Some mentioned 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.

Taft, Perkowski & Martin (2011) found out that, there is a clear and strong relationship between class size, student-teacher ratio and students' achievement. Also that, students learned more in small classes. They further revealed that, the major benefit of reducing class size occurred where the number of students in the class was fewer than 20. Finally, they concluded that small classes were superior in terms of students' reactions, teachers' morale and quality of the instructional environment. Similarly, Keil & Partell (2009) found that increasing class size has a negative effect on students' achievement as it lowers students' achievement. In the 21st century, low student-teacher ratio may be beneficial to pupils more when instruction relies on discussion by giving room for students' participation in the classroom extensively.

The importance of quality and sound education to the growth and development of any community cannot be over-stressed. One may faultlessly conclude that the gap between the developed and under-developed countries is in the difference in the quality of education available in them. Nwokocha & Amadike, (2005) opine that academic performance of students is the yardstick for testing educational quality of a nation. Therefore, there is a need to examine the factors that affect academic performance of students. Among some to the factors of academic performance according to various researchers include teaching methods (Ahmed & Abimbola, 2011; Kareem, 2003; Umar, 2011), use of instructional materials (Adalikwu and Iorkpilgh, 2012), socio-economic background, family support, intellectual aptitude of student, personality of student, self-confidence, and previous instructional quality have been found to also influence students' performance (Starr 2002) to mention just a few. In spite of all the various study on the factors of academic performance little or no work has been carried out to investigate the influence of teacher-student ratio on the academic performance of primary school pupils. Hence, this study investigates the effect of student-teacher ratio on the primary school pupils' academic performance in Odeda Local Government Area, Ogun State, Nigeria.

Hypotheses

H₀₁: There is no significant effect of student-teacher's ratio on the academic performance of pupils in the study area.

Ho₂: There is no significant effect of students-teacher ratio on the academic performance of pupils based on gender.

Method

Descriptive survey research design was employed in this study and all the fifty-three identified government-owned primary schools in Odeda Local Government Area formed the population of the study. A simple random selection was used to select fourteen participatory schools and one hundred and eighteen (118) primary three to six (3-6) pupils' teachers that formed the study sample. Furthermore, a self-structured questionnaire addressing the socio-demographic and objectives of study relating to students-teacher ratio with the students' academic achievement scores in English and Mathematics as the secondary data of the pupils academic performance, formed the instruments of data collection for this work.

Both content and face validity of the questionnaire developed was established and test-retest method was used in a pilot study using 10 teachers outside the study sample to obtain a reliability coefficient of 0.78 and 0.70 respectively using alpha coefficient.

Data collected was analysed using simple linear regression. All formulated hypotheses were tested at 0.05 level of significance.

Hypothesis One

H₀₁: There is no significant effect of student-teacher ratio on the academic performance of pupils in the study area.

Table 1: Simple Linear Regression Coefficients for the Effect of Student-Teacher's Ratio on Academic Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	77.101	12.163		6.339	.000
	pupil-teacher ratio	-12.469	6.983	-.264	-7.786	.000

a. Dependent Variable: academic performance of pupils

Predictors: (Constant), pupil-teacher ratio

Table 2 showed significant results ($t = -7.786$, $p < .05$). The null hypothesis was therefore rejected implies that student-teacher ratio has a significant effect on the academic performance of students in the study area.

Hypothesis Two

Table: Simple Linear Regression Coefficients for the Effect of Student-Teacher's Ratio on Academic Performance by Gender

Sex of participants		B	Std. Error	Beta	t	Sig.
Male	(Constant)	84.407	5.596		15.085	.000
	STR	-18.296	3.104	-.711	-5.895	.000
Female	(Constant)	73.967	16.724		4.423	.000
	STR	-9.795	9.755	-.112	-1.004	.318

Dependent variable: Academic performance

Note: PTR = Pupil-teacher's ratio

Results in Table 3b were significant for male ($t = 5.895$, $p < .05$) but non-significant for female ($t = 1.004$, $p > .05$). Hence, it was concluded that there was a significant effect of student-teacher ratio on the academic performance of male pupils but a non-significant effect of student-teacher ratio on the academic performance of female pupils.

Discussion of Findings

Descriptively, majority of the participants (58.5%) of this work have tertiary educational qualification which agreed with Education Sector Analysis Study (2005) on selected school teachers in Nigeria by qualifications which revealed that the bulk of the teachers ($n = 69,787$) were graduates with first or higher degrees where, 43,073 were male and 26,714 were female. However, this study observed that the greatest proportion of the participants (29.7%) had 6 – 15 years of teaching experience. This was followed, in order, by those who had 16 – 25 years' experience (27.1%) less than 5 years' experience (25.4%) and 26 – 35 years' experience (17.8%). This finding indicates that the teachers' years of experience in this work could be captured as being below the expected standard for higher academic productivity of students as opined by Akinsolu (2010) who advocated that experienced teachers need to be retained in schools if higher productivity is to be obtained because learners achieved more from such teachers. This view was further corroborated with the fact that factors affecting quality of education received by students include teachers' educational background, the pupil intellectual quotient, quality teaching in the school as well as pupil-teacher ratio among others asserted Ikediashi and Amaechi, (2012).

The result of hypothesis one indicated that a significant effect of the student-teacher ratio on the academic performance of pupils exist, agreed with the finding of Walker (2011) that reduced class size reduces the need for class discipline which would eventually result in more time for instruction and better academic performance. Similarly, this result corroborated that of Ibitoye (2003) who found a significant relationship between enrolment, utilization of classrooms provided for teachers, the teaching -learning activities and students' academic performance. Likewise, this result affirmed the finding of Akinsolu (2010) who observed a positive correlation between teacher-student's ratio and students' academic performance and therefore opined that teacher-pupil ratio is a potent predictor of learning achievement in Nigerian secondary schools. Also, supported by this finding was that of Bayo (2005) who concluded that smaller classes benefit all pupils because of the opportunity for individual attention from the teacher. Doubtlessly, it is factual that, pupils in large classes drift off task because of too much instruction from the teacher to the whole class instead of individual attention, and low-attaining students are most affected. This finding also agreed with Finn (2003) who found that students are more occupied and engaged in the small class size, both academically and socially, and that this increased their academic performance.

Conclusion

Based on the findings of this study regarding students' academic performance and students-teacher ratio in Ogun State public primary schools, conclusively it is glaring that the educational system needs a redress in the students-teacher ratio situation of the public school system. This requires prompt attention on the part of the state educational planners and policy makers to improve the academic situation by improving the teacher-pupil ratio in all schools. This study, therefore recommend among others that, the government, through the Ministry of Education, should urgently employ more teachers in order to ease teachers' weekly workload and subsequently cause higher productivity of students' academic performance beginning from the primary school level.

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