RELATIONSHIP BETWEEN TEACHER ATTRITION RATES AND PUPILS ACADEMIC PERFORMANCE IN IJEBU NORTH-EAST LOCAL GOVERNMENT AREA OF OGUN STATE

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Abstract
This study examined the relationship between teachers' attrition and pupils' academic performance. A descriptive research design was adopted for this study. The population for the study comprised eight hundred and one (801) pupils in thirty-four (34) public primary schools in Ijebu North-East Local Government. A sample of 200 Basic 6 pupils from 10 public primary schools were selected using simple random sampling technique. Two research instruments were used for data collection, namely: ''Teacher Attrition Rates Questionnaire (TARQ) and Pupils' Academic Performance Tests (PAT)." The reliability coefficients of the instruments were conducted using test-retest reliability method. The coefficient was .70 for Teacher Attrition Rates Questionnaire (TARQ) .81 for English Studies Performance Test, .84 for Mathematics Performance Test. Data were analysed using frequency counts, percentages, charts, means, and standard deviations. The hypothesis was tested using Pearson's Product Moment Correlation (PPMC) at 0.05 alpha level. Results revealed that the total average attrition rates recorded for primary school teachers was high, around 39%. There was significant negative relationship between teachers' attrition and pupils' academic performance (r= -0.53; p <0.05). The study recommends the need to minimize attrition rates of teachers in order to improve pupils' academic performance in public primary schools. To curb attrition among teachers, the school management should implement a comprehensive induction programme and strategies which may comprise of multiple

types of support, including high quality mentoring, common planning time, and continuous support from school leaders.

Keywords: Teacher, Attrition, Academic Performance, Primary School, Pupils.

Introduction

Qualified teaching staff is the cornerstone of a successful educational system. Attracting and retaining high quality teachers is, thus, a primary necessity for education. An organization's human resources are arguably the most important category of resources that can decide the organization's efficiency and survival. It is widely recognized in the literature that teachers are regarded as highly important school assets and, consequently, education stakeholders invest substantial capital in human resources to improve the efficiency of the school system. The quality of education in any given country is reflected and related to the men and women who serve as teachers in the school system. These teachers are supervisors directly in charge of monitoring pupils' academic performance and other learners' learning outcomes in schools.

Academic performance of pupils especially at the primary school level is not only a pointer to effectiveness and quality of schools in Nigeria but a major determinant of the future of pupils in particular and the nation in general. No nation with good intention would want to see her resources on pupils wasted. Mendezabal (2013) viewed academic performance as a key criterion to judge one's total potentialities and capacities which are frequently measured by the examination results. It is used to pass judgement on the quality of education offered by academic institutions. Grissmer (2006) described pupils' academic performance as any performance that falls below or above the desired standard. Academic performance plays an important role in producing the best quality individuals who will become great leader and manpower for the society and responsible to contribute meaningfully to the sustainability economic growth and social development of such society in the future. It occupies a very important place in education as well as in the learning process. Therefore, the education system must be responsible and responsive enough to ensure the recruitment, training and retention of adequate, skilled and

high performing teachers, and avoid attrition for the betterment of the nation's educational goals achievements.

Benitez-Mackintosh (2018) agreed that there are many complex and interrelated factors such as personal student factors, parental involvement, instructional practices, and teacher preparation that influence pupils' academic performance. Hills (2000) argued that the single factor that most influences pupils' performance is the effectiveness of their teachers. If this important factor is constantly shifting through frequent teacher attrition, what then is the effect upon pupils' ability to learn and make academic gains? According to Chafetz, Erickson and Ensell (2009), employee attrition is considered as one of the most impactful out of the many different factors that can decide school's effectiveness. The turnover of employees has always been a matter of concern for all forms of organizations including the education system. More than ever, workplace attrition is thought to be accompanied by turnover behaviours or intentions of employees in one way or another. These behaviours and intentions are commonly referred to as turnover tendency (Oregano, 2020). Turnover tendency refers to an employee's likelihood of leaving or exiting an organization either willingly or involuntarily (Balogun and Olowodunoye, 2012). This can be counterproductive to the organization in terms of costs and the capability to provide the necessary services needed.

Teacher attrition, also referred to as teacher turnover, is a phenomenon that is characterized by teachers leaving work in the classroom to take up and pursue other professional responsibilities inside or outside the educational system (Okeke, Okaforcha and Ekwesianya, 2019). It is the educational sector labour mobility by which, among other reasons, teachers seek professional 'greener pastures' which in turn leaves the school bereft of much needed teaching staff. Teacher attrition imposes setback in school achievement and a lot of cost on educational systems (Marinette, 2018). High attrition has damaging impact on the quality of schooling. Schools with high attrition rate are more likely to get inexperienced teachers or unqualified teachers who are likely to be less effective. Thus, impacting pupils' academic performance scores. Also, teacher attrition may raise the annual salary in cost of substitution, recruitment and appointment of new teachers. Furthermore, it is affirmed that, the loss of teachers often result in long delays before recruitment or replacement resulting

in unfilled post and loss of teaching time which sometimes could last for months. In addition, high attrition results in increased reliance on inexperienced teachers. When faced with difficulties in finding sufficient numbers of quality teachers, school administrators do one of three things. They either hire less-qualified teachers, assign teachers trained in one area to teach in the shortage area, or make extensive use of substitute teachers. As a consequence, many pupils particularly are being taught by teachers who lack the knowledge and skills necessary to produce the desired learning outcomes (Cooper and Alvarado, 2006).

Sawchuk (2012) opined that "when teachers leave schools, the overall morale appears to suffer enough that pupils' achievement declines, both for those taught by the departed teachers and by pupils whose teachers stayed put." High rate of teachers' attrition has been recorded in high poverty schools more than low poverty ones, and this harms pupils' academic achievements. The high attrition rate does not only impacts the financial resources of schools but also the quality of teaching, which ultimately affects the increasingly widening pupils' performance gap (Sykes and Dibner, 2009). Teachers who leave the classroom take with them knowledge, skills, abilities and experiences acquired. The ultimate goal of teachers' professional development is to improve pupils' achievement and learning. Teachers attrition has many effects on pupils such as drop in educational standards, low academic achievement and high failure rates in class and public examinations (Darling-Hammond et al. 2009).

Patall and Birkeland (2003) explained that, "losing a good teacher whether to another profession or to the school across town means losing that teacher's familiarity with school practices, experience with the school curriculum and involvement with pupils, parents and colleagues". Teacher attrition has a negative effect on students' learning and hinders students to achieve their objectives. Attrition also affects full coverage of syllabi which contribute to falling education quality. Teacher attrition disrupts schooling, especially when teachers leave the profession during the academic year or when they are engaged in critical projects in school. Often there is no continuity when they leave. According to Ingersoll (2002), attrition influences the performance and effectiveness of the school since the school as an organization has production processes requiring extensive interaction

among educators and it is therefore prone to suffer when subjected to high rates of attrition.

In regards to pupils' academic performance determined by teachers' attrition, several factors have been noted to attribute to this circumstance. Mutune and Orodho (2014) opined that job dissatisfaction among teachers, poor remunerations and inadequate support from school administration bodies were the main reasons for teachers' attrition. Oregano (2020) classified these factors as extrinsic or pull factors and intrinsic or push factors. The pull or external factors is also known as external environmental variables or uncontrolled factors that are extrinsic to the school and these factors are perceived to affect the job satisfaction of teachers. Meanwhile, push factors are classified as internal factors that arise from dissatisfaction resulting from the nature of the teacher and the organization's life itself. Pull factors may attract a teacher to a new organization due to the higher salary and benefits, better career advancement, new challenge of work, job security, good location of the company, better organization culture, work-life balance, autonomy, reputation of the organization and good leadership. Work stressors, low job satisfaction, frustration with ineffective management or overly bureaucratic organization processes are deemed to be common push factors (Barnard and Rodgers, 2018).

Bromley et al (2012) identified two types of teacher attrition – a transfer which leads a teacher to relocate to another school and attrition which involves leaving teaching jobs altogether. Teachers' actual turnover, just like turnover tendency manifests itself in two ways – first, a teacher's intention to change the employer within the same profession or transfer from one school to another and second, a teacher's intention to change the profession altogether. It is not uncommon to observe principals of public schools making regular visits to educational boards to request for teachers to fill vacant teacher positions, especially in core subject areas such as Mathematics and the Science subjects. Borman and Dowling (2008) confirmed that Mathematics and Science teachers have the highest attrition rate.

According to Kean (2015), turnover intention among teachers results in low motivation and job satisfaction in their work thus impending academic achievement and other school goals. This is because teachers intending to move to perceived favourable work or areas show low excitement with their current work activities (Lee,

2008). Kimengi (2012) posits that poor compensation is a major cause of teachers' dissatisfaction resulting into high levels of actual teacher turnover. The reason being that teachers will perceive inequality in the services they render and what they receive in return. Based on this background, the study intends to examine the relationship between teachers' attrition and pupils' academic performance.

Statement of the Problem
In Nigeria, most qualified teachers are willing to leave the teaching profession for non-teaching employment. This situation had not only led to shortage of teachers in many public primary schools but also to an overwhelmingly influx and mass exodus of teachers to other sectors where terms of service are usually more attractive. While authorities at the helm of affairs of the State Universal Basic Education Board (SUBEB) in most cases have only been replacing teachers who leave the service through natural attrition (retirement and death), the reality on the ground is that there is an acute shortage of teachers and a dire growing need for more teachers to cope with higher demand of free Universal Basic Education (UBE). Teacher attrition is a problem in Nigeria and globally. The teaching profession has the highest attrition rate of all professions. The introduction of educational programmes such as Universal Basic Education has brought about a large increase in enrolment at the primary level of education, without a corresponding increase in teaching strength of schools. Teachers continue to retire, while others move to other jobs outside the education system for a variety of reasons. Therefore, the main problem of this study is, does teacher attrition impedes or promotes pupils' academic performance?

Research Questions
This study will answer the following questions:
    (1) What is the rate of teachers attrition in primary schools in Ijebu North-East Local Government of Ogun State?
    (2) What is the mean academic performance score of pupils in Mathematics and English Language based on teachers attrition rates?

Hypothesis
The study will test the following hypothesis:
H_01: There is no significant relationship between teachers' attrition and pupils' academic performance in Ijebu North-East Local Government, Ogun State

Methodology
Research Design
This study adopted the descriptive survey research design. This design was chosen because it involves collecting data in order to answer questions concerning the current status of the subjects of the study with a view to understanding the distribution and intensity between teachers' attrition rate and academic performance of pupils in Ijebu North-East Local Government, Ogun State, Nigeria. None of the variables were manipulated.

Population
The target population for this study comprised eight hundred and one (801) pupils in thirty-four (34) public primary schools in Ijebu North-East Local Government, Ogun State (Source: Universal Basic Education Commission, 2018; http://www.ubeconline.com/n-pa/ogun/personnel %20pub%20state.pdf).

Sample and Sampling Technique
The samples for this study consisted of 200 Basic 6 pupils from 10 public primary schools in Ijebu North-East Local Government, Ogun State. Samples were selected using simple random sampling technique. With the use of simple random sampling, ten (10) public primary schools within the localities of Ijebu North-East Local Government were selected by the researchers followed by random selection of 20 Basic 6 pupils from each of the selected public primary schools. The samples selected represented twenty-five per cent of the study population.

Research Instruments
For the purpose of data collection, the instruments used for this study were tagged "Teacher Attrition Rates Questionnaire (TARQ)" and "Pupils Academic Performance Tests (PAT)". The instruments were designed by the researchers.

Teacher Attrition Rates Questionnaire (TARQ)
This instrument has two sections – A and B. Section A was designed to seek background information of the respondents (sex, age, class and school). The Section B is a questionnaire describing teachers' attrition rates based on pupils' experience of their classroom teacher turnover prior to promotion to Primary 6. The questionnaire provides the rates of teacher attrition based on total number of teachers in Basic 5 and the number of teachers in Basic 6. This instrument was completed by primary school pupils in Basic 6.

Pupils' Academic Performance Tests (PAT)
Pupils' academic performance of pupils was measured through their achievements in two core subjects: English Language and Mathematics. Twenty (10) multiple-choice test items were set on each of the subject based on the content of the Basic 5 curriculum. The test items were constructed by two teachers on each subject who were required to set twenty (20) test items each. These test items were given to test and measurement experts for face validation. These experts followed the details of the principles of test construction. The Academic Performance Test (APT) has a total of twenty (20) test items with response options A to D and was used to measure the academic performance of pupils in this study.

Validation and Reliability of the Instrument
The research instruments were subjected to face, construct and content validities. The researchers submitted the initial drafts to educational reesearch. These experts affirmed that the instrument covered the intended content and therefore was valid for use. Corrections were reflected in the final version of the items in the instruments. The reliability coefficient of the test was done through test-retest method after the interval of two weeks through a pilot test among pupils in public primary schools in Ijebu-Ode Local Government which was outside the scope of the study. The results read $r = .70$ for Teacher Attrition Rates Questionnaire (TARQ), $r = .81$ for English Studies Performance Test, and $r = .84$ for Mathematics Performance Test. The Pearson's correlation coefficient values were considered reliably high enough for the study.

Method of Data Analysis

The collected data were codified and analysed using descriptive statistics and inferential statistics. Descriptive statistics of frequency counts, percentages and charts were used to analyse the demographic data of the respondents. The two research questions were analysed using descriptive statistics of mean. The hypothesis was analysed using Pearson's Product Moment Correlation (PPMC) at 0.05 level of significance.

Results

Description of Respondents' Demographic Data

Table 1: *Distribution of respondents' sex and age (N=200)*

	Frequency (f)	Percentage (%)
Sex		
Male	104	52.0
Female	96	48.0
Age group		
5 –7 years	23	11.5
8 – 10 years	136	68.0
above 11 years	41	20.5

Source: Field Report (2020)

Table 1 showed the sex distribution of the respondents for this study. It showed that 61.0% (n= 122) of the respondents for the study were male while 39.0% (n= 78) of the respondents were female. This means that both male and female pupils were equally represented, and as such there is less prejudice on gender bias.

Table 1 also showed the age distribution of the respondents. It showed that 11.5% (n= 23) of the total respondents for the study were between ages 5–7 years, 68.0% (n= 136) of the respondents were between 8 – 10 years of age, and about 20.5% (n= 41) of the respondents were above 11 years old. This distribution portends that the majority of the respondents were under 10.

Research Questions 1

What is the rate of teacher attrition in primary schools in Ijebu North-East Local Government, Ogun State?

Table 2: Teacher Attrition Rates in primary schools in Ijebu North-East Local Government, Ogun State

	Mean Number of Teachers in Basic 5	Mean Number of Teachers in Basic 6	Teacher Attrition Rates
English Studies	4.15	3.82	7.95
Mathematics	5.88	2.64	55.10
Total	4.80	2.95	38.54

Table 2 showed the attrition rates of primary school teachers in Ijebu-North Local Government, Ogun State computed using the mean number of teachers in Basic 5 class and the mean number of teachers in Basic 6 class as provided by the respondents. Data indicated that the total attrition rates recorded for primary school teachers was 38.54%. Based on the line of teaching subjects, Mathematics teachers had higher rates of attrition, 55.1% than English Language teachers, 7.95% in public primary schools in Ijebu North-East Local Government, Ogun State. These results showed that there was high level of teacher attrition in public primary school in Ijebu North-East Local Government, Ogun State.

Research Questions 2

What is the mean academic performance score of pupils in Mathematics and English Language based on teacher attrition rates?

Table 3: Mean Academic Performance of Pupils in Mathematics Based on Teacher Attrition Rates

	Teachers' Attrition Rates (%)			
	0-20	30-50	60-80	> 80
Mean Score	71.2	64.5	50.7	48.6
Stand. Dev.	5.43	10.37	13.81	12.29
n	16	78	63	43

Table 3 presented the mean academic performance of pupils in Mathematics based on four degree classifications of teacher attrition rates in Ijebu North-East Local Government, Ogun State. Results indicated that pupils who reported 0-20% teacher attrition rates had a mean score of 71.2 (*SD*= 5.43) in Mathematics. Respondents who reported 30-50% teacher attrition rates had a mean score of 64.5 (*SD*= 10.37) in Mathematics. For 60-80% teacher attrition rates, the mean academic performance score of pupils was 50.7 (*SD*= 13.81) while more than 80% attrition rates, pupils recorded mean academic performance score of 48.6 (*SD*= 12.29) in Mathematics.

Table 4: **Mean Academic Performance of Pupils in English Language Based on Teacher Attrition Rates**

	Teachers' Attrition Rates (%)			
	0-20	30-50	60-80	> 80
Mean Score	67.6	68.5	60.2	57.5
Stand. Dev.	7.29	8.51	7.20	13.46
n	81	62	35	22

Table 4 presented the mean academic performance of pupils in English Language based on four degree classifications of teacher attrition rates in Ijebu North-East Local Government, Ogun State. Results indicated that pupils who reported 0-20% teacher attrition rates had a mean score of 67.6 (*SD*= 7.29) in English Language. Respondents who reported 30-50% teacher attrition rates had a mean score of 68.5 (*SD*= 8.51) in English Language. For 60-80% teacher attrition rates, the

mean academic performance score of pupils was 60.2 (*SD*= 7.20) while more than 80% attrition rates, pupils recorded mean academic performance score of 57.5 (*SD*= 13.46) in English Language.

Hypothesis 1
There is no significant relationship between teachers' attrition and pupils' academic performance in Ijebu North-East Local Government, Ogun State

Table 5: **Relationship between Teachers' Attrition and Pupils' Academic Performance**

Variables	n	Mean	Stand. Dev.	df	r	p-value
Teacher Attrition	200	38.54	11.70	198	-0.53	0.005
Academic Performance	200	58.61	8.53			

Table 5 presented the Pearson correlation (r), the degree of freedom, and the p-value for the teacher attrition rates scores and the academic performance of pupils in Ijebu North-East Local Government, Ogun State. Results showed that the value of r is technically a negative correlation (that is, -0.53). The relationship between the variables (teacher attrition and academic performance) was moderate (that is, the closer the value is to 0.5, the moderate the relationship), and the correlation coefficient was statistically significant at 198 degrees of freedom (p < 0.05). Thus, the null hypothesis one was rejected. This means that the relationship between teachers' attrition and pupils' academic performance was significant.

Discussion of Findings
This study was conducted to examine the relationship between teachers' attrition rate and pupils' academic performance in Ijebu North-East Local Government Area of Ogun State. From the analysed data, findings revealed that teacher attrition rate was high among primary school teachers in Ijebu-North East Local Government Area of Ogun State. The high rate of attrition was more noticeable among Mathematics based teachers than English Studies teachers in public

primary schools. Findings also showed that pupils who had the lowest number of teachers attrition had the highest mean scores in Mathematics and English Studies, an indication that showed an upward trend in pupils' academic performance as teachers attrition rate reduces. Findings also revealed that there was significant relationship between teachers' attrition and pupils' academic performance. This result validate the findings that attrition rate correlates negatively with academic performance of pupils. The relationship between the two variables (teachers' attrition and pupils' academic performance) was weak when performance in English Studies was only used as a measure of pupils' academic performance. The results affirmed that English language teachers had lower attrition rates, and pupils' academic performances were merely affected. However, the negative direction of the relationship is an indication that teachers' attrition could negatively impact pupils' academic performance. Findings on hypothesis indicated that moderate negative relationship existed between teachers' attrition and pupils' academic performance in Mathematics. This relationship was statistically significant implying that pupils' academic performance decreases with increasing attrition rates.

The findings come as no surprise because researchers that studied the relationship between the two variables (teacher attrition and academic performance) often concluded that high rates of teacher turnover harm students' achievement. The findings of this study also aligned with one unprecedented study conducted by Donley et al (2019) that collected data on 1.1 million New York elementary school students over a decade. The study found that students in "grade-levels with higher turnover score lower in both English Language and Mathematics" and eliminating teachers turnover entirely "increased student achievement in Mathematics by 2 per cent to 4 per cent of a standard deviation."

The findings of this study corroborated a prominent finding reported by Detrich (2019). The researcher explained that mid-year turnover "disrupts the continuity of a child's learning experience," breaking the student-teacher and parent-teacher relationships that have formed and weakening the academic support system for students. In that line of reasoning, this means that there is a disruptive effect of attrition beyond changing the composition in teacher quality, thereby impacting the achievement of all pupils in high attrition schools. In

agreement with the findings, Drucker (1999) found out that teachers attrition was due to poor remuneration - very low wage or salary causing search for greener pastures; lack of job security causing workers to look for more secured employment, domination of labour in an organization by the largely unstable middle class and industrial fatigue leading to decline in production of goods, low market or demand of company's products and subsequent closure of operations.

Attrition rates are also higher in the early years of a teaching career. Teachers mostly found in public primary schools often regard teaching as interim career. This is because teachers in their early careers may have less stable family lives and less commitment to teaching. Different rate of attrition of teachers can also be clustered around specific subjects with higher attrition in those subjects that are in demand in other professions (MacDonald, 1999). This finding aligned with the findings of this study that Mathematics teachers had higher attrition rate than English Studies teachers. The most highly qualified teachers may be the most likely to leave as they can easily get alternative employment in other sectors. This reveals that teachers' attrition is a pertinent issue that needs to be handled with care, so that the educational sector can be able to contribute to societal development. The findings of this study also supported Egu et al (2011) and Borman and Dowling (2008) positions that teacher attrition is subject based. This accounts for the fact that most of the public primary schools had inadequate number of qualified Mathematics teachers.

Conclusion

The study concluded that teachers' attrition had a significant negative relationship with academic performance of primary school pupils in Ijebu North-East Local Government Area of Ogun State. The higher the attrition rates, the lower the academic performance of pupils. The study also discovered that teachers' attrition had significant negative relationship with academic performance of pupils in Mathematics. These outcomes are not just inconvenient for schools but teacher attrition also affects pupils' academic achievements, discourages educators and more expensive for Local Government Education Authority. In order to maximize pupils' academic performance and minimize teachers' attrition rates, the school system in general needs

to develop long-term solutions to help retain efficient professional teachers.

Recommendations
Based on findings of this study, the following recommendations were made:
(i)   The study recommends the urgent need by all stakeholders in education to minimize attrition rates of teachers in order to improve pupils' academic performance in public primary schools.
(ii) The study recommends that the state government through the Ministry of Education, Salaries and Remuneration Commission should put in place functional teachers professional development strategies and remuneration initiatives respectively to enhance teachers' efficiency and productivity that will ultimately reduce attrition.
(iii) Personal characteristics of teachers associated with turnover, the Ministry of Education should improve working conditions of teachers by providing all the necessary tools for their job and reducing their workload by posting more teachers to schools. This would make teachers feel highly satisfied with their work hence improving their effectiveness in work performance.
(iv) To minimize the rate of attrition among teachers, a concerted effort from all stakeholders (headteachers, Ministry of education, Government) in the education system is required.
(v)   The researchers recommend the need for actions of school leaders to reduce teacher attrition and increase pupils' academic performance.
(vi) To reduce attrition among public primary school teachers, the school management should implement a comprehensive induction programme and strategies which may comprise multiple types of support, including high quality mentoring, common planning time, and continuous support from school leaders.

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