



Teachers And Facility Quality Indicators And Students' Academic Performance In Public Secondary Schools In Rivers State

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ABSTRACT

The study examined quality indicators and students' academic performance in public secondary schools in Rivers State. Two research questions and two hypotheses guided the study. The study adopted the correlational design. The population comprised 257 principals from 257 public secondary schools in Rivers State and a sample of 257 principals from 257 secondary schools representing 100% was drawn using the census method and 546 students were also drawn from 10,000 students through the use of multistage sampling approaches. The principals responded to a structured validated instrument titled: Teachers' and Facilities Quality Indicators Questionnaire and "Students' Academic Performance Record Questionnaire designed by the researchers and the reliability indexes using Cronbach alpha method were 0.73 and 0.83 while the reliability coefficient using Kuder Richardson 21 was 0.80. Simple regression was used to answer the research questions while t-test associated with simple regression was used to test the null hypotheses. Findings from the study showed that teachers' quality indicators contribute 3.50% to students' academic performance and there was no significant relationship between teachers' quality indicators and academic performance of students in public secondary schools in Rivers State. Facility quality indicators contribute 9.50% to students' academic performance and there was no significant relationship between facilities quality indicators and academic performance of students in public secondary schools in Rivers State. It was concluded that teachers' quality indicators and facility quality indicators contributed predicted 3.50% and 9.50% to students' academic performance in public secondary schools in Rivers State. The study therefore recommended that principals should make use of their administrative styles so as to achieve quality that will improve students' academic performance and principals should encourage their teachers to attend seminars and workshops to help improve their teaching methods.

Keywords: Teacher, Facility, Quality Indicators, Academic Performance

INTRODUCTION

Education is the bedrock of development worldwide and the quality of education naturally determines the quality of development. Education appears to be a mystical wand that wields answers to many of the challenges in the world today. Education in Nigeria is regarded as an instrument par excellence for effecting national development (Federal Republic of Nigeria, 2004). Ehudero (2004) confirmed this when he asserted that for the educational system to satisfy the present demands, it must not just produce human capital for the labour market, rather it should produce knowledge worker with flexible and adaptable skills who can apply their critical and creative arsenals to general idea for the continuous regeneration of the society and the survival of humanity. This means that our

educational system needs to produce quality outputs. This output can be effectively achieved if the school, where they are to be produced is given the necessary attention.

School quality indicators therefore remain an important area in the school system that should be studied and managed to enhance teachers' job performance. The quality of education provided in any school does not only depend on the head teachers' quality as reflected in the performance of administrative duties but also in the effective discharge of teaching duties by teachers and the facilities available in the school system. In other words, school quality indicators may have a form of relationship with students' academic performance since the quality of an environment may go a long way to shape the activities and development of people and things within the scope of that environment. Quality teachers are the critical determinant of students' performance. Performance can be seen as involving the notion of accomplishment, attainment in the execution of a task (Ehinola, 2008). This description implied that the individual possesses or has achieved certain skills which are displayed in carrying out an assignment. Performance has been described as an action of a person or group when given a learning task. Academic performance can be defined as any score or performance above the class mean score, taking into consideration the difficult level of the test. There is usually a stand or score which is called the pass mark like 40% and 50%. Most common for public examinations, anyone who scores up to this mark is automatically assumed to have passed while anybody who scores less than this pass mark is regarded to have failed. It is also viewed in terms of actual performance in school (Ehinola, 2008).

In other words, quality indicators such as the teachers' quality and facility quality can affect students' academic performance. Quality teachers are the critical determinant of students' performance. A number of researchers have argued that teacher quality is a powerful predictor of students' performance. Sanders and Rivers (2006) argued that the single most important factor affecting students' performance is teacher and the effect of teachers' quality on students' performance are both additive and cumulative. The scholars further contended that lower achieving students are most likely to benefit from increases in teacher effectiveness. A teacher is someone who sees what can be accomplished, not what cannot be accomplished (Kuebler, 2010). The teacher is a positive thinking person who works hard in making sure the aim and objectives of education are attained and he does this by transferring knowledge to his students and making sure they acquire this knowledge in all aspects.

In line with this, Ubah (2012) referred to the teacher as the chief work group of the principal. The teacher is the key to functional education in terms of teaching and learning activities and as such, he should be accountable for his academic performance and that of the students he teaches (Moses-Promise & Moses, 2016). A caring, competent and qualified teacher for every child is the most important ingredient in education. Success of a school system depends on its teacher. But for the teachers to do this they must be adequately prepared and motivated (Agu, Manda and Tukai, 2000). Quality teachers have been recognized as indispensable human resource and indeed, one of the most important elements in the school system, more important than the quality of equipment and materials (Kolawole, 2009). Teacher qualities include the logical acts of teaching such as defining, demonstrating, modeling, explaining and so on, psychological acts of teaching such as caring, motivating, encouraging, rewarding, punishment, planning, evaluating and so on; and the moral acts of teaching such as showing honesty, courage, tolerance, respectful, fairness and so on.

Quality teachers teach students how to learn and help them to use the models of learning that will support the best academic, social, and personal growth. This is partly similar to what Williams (2003) stated, that for students to reach their potential a quality teacher must pay more attention to the interplay between the science and art of teaching otherwise termed pedagogy. Teaching for meaningful learning entails teaching the content, skills and inculcating the right attitude (Ukoh, 2014). Usman (2003) argued that shortage of qualified teachers is responsible for the poor academic performance observable among the students. Darling-Hammond (2000) contended that measures of teacher quality are more strongly related to students' performance than other kinds of educational investments such as reduced class size, overall spending on education and teacher's salaries. Pedagogical knowledge of the teacher is a teacher quality indicator that involves the teachers' deep knowledge about the methods of teaching and learning. The science of teaching, according to Ogunboye (2011), is referred to as pedagogy. Pedagogical knowledge is an essential and critical

element in determining teachers' success in teaching and learning processes in the classroom (Ball and Bass, 2000).

Lack of pedagogical skills and knowledge is a bigger threat to teacher quality than certification issues (Torff, 2005). Teachers with good mathematical pedagogical knowledge can break down mathematical knowledge into less polished and less abstract forms, thus making it accessible to students who are at different cognitive level (Ball, 2003). He further pointed out that teachers with good pedagogical knowledge understand where students may be struggling with learning the subject and should be able to present mathematical concept in a way that their students can comprehend each structure and avoid difficulties. Teacher's subject matter knowledge is another teacher quality indicator. This has to do with teacher's knowledge about the content to be learnt or taught. The content to be covered in primary school science is different from the content to be covered in an undergraduate course. National Council of Teachers of Mathematics (NCTM) (2000) observed that teachers who have strong subject matter knowledge give details in their lesson, link the topic to other topics, throw questions to students, stray from the textbooks and promotes students' learning outcome. Teachers-students relationship is another teacher quality indicator which means getting to know the students as individuals as well as a group, getting to know them in terms of cultural background, intellectual profile, learning strength and academic potential as well as their interest outside the school and what they do for fun (Miller, Mckenna, & Mckenna, 2006). Positive relationship with the teacher is important in supporting higher level of self-esteem, higher academic self-efficacy, academic performance and more confidence in future employment outcomes. O'connor, Dearing & Collins, (2011) posited that positive teacher-student relationship enable students to feel safe and secure in their learning environments and provide scaffolding for important social academic skills. They maintained that teachers who support their students in the learning environment can positively impact their social and academic outcomes.

Teacher's teaching experience is another teacher quality indicator which has to do with the number of years a teacher has spent in the teaching service. Adewale (2010) found out that years of experience has a strong correlation with improved students' performance and it is argued that prospective and experienced teachers' knowledge and beliefs serve as a filter through which their teaching take place (Borko, 2006). Teacher qualification is another teacher quality indicator and it is the highest educational qualification the teacher has obtained. In other words, the teacher's role is crucial to effective and efficient learning, the teacher is expected to provide essential inputs like adequate planning of lesson notes, effective delivery of lessons, proper monitoring and evaluation of students' performance, providing regular feed-back on students' performance, improvisation of instructional materials, adequate keeping of records and appropriate discipline of students to produce and enhance expected learning performance in secondary schools (Ayeni, 2010).

The quality of facility made available to a school determines the level of students' academic performance. School facilities are considered as a potent factor in the high academic performance of students. Facilities therefore includes the building, classroom furniture, and recreational equipment and other instructional materials (Benjamin, 2001). He went further to say that their availability, relevance and adequacy contribute to academic performances. In their contribution, Ajayi and Ojumgerm (2000) reiterated that when facilities are provided to meet relative needs of a school system, students will not only have access to the reference materials mentioned by the teacher but individual students will also learn at their own paces. The net effect of this is to increase the overall academic performance of the entire students. The idea that human and material resources are to be assembled together by educational administration within the school system for effective teaching and learning cannot be overemphasized.

Physical and material resources are tangible resources that can easily be seen and observed in any institution. The physical resources include the structure, the machines, raw materials, vehicles, and other tools, which can facilitate organization's activities and processes. The physical resources may not be the same in all organizations. In the educational system, the physical resources would include the classrooms/lecture rooms, staff offices, vehicles, health centers, library, laboratory and so on, which directly or indirectly contribute to the performance of goals. The physical appearance and entire state of school facilities are the areas of attention on which parents and friends of any school make their initial judgment about the quality of the school and what happens in them (Osuji, 2011).

Secondary schools need physical facilities and equipment to make learning easy for teachers and students. Physical facilities therefore are the material resources that facilitate effective teaching and learning in the school and these physical facilities are known to be those items of education which enhances instructional effectiveness for a skillful teacher so as to achieve a level that far exceeds what is possible when they are not there (Moses and Nwogu, 2019). Osuji (2011) further described the physical facilities as the space interpretation of the school curriculum. The programmes of the school are known through the school site, the buildings, play grounds, the arrangement and design of the buildings.

In other words, the school facilities should be well planned to fit into the scope of the curriculum and methods of instruction. Education facilities are necessary for developing the cognitive areas of knowledge, abilities and skills which are the requirements for academic progress. School facilities are meant to control the environment and facilitate teaching and learning activities in a school and at the same time, protect the physical well-being of the occupants. Secondary schools are being disturbed by lack of financial and physical facilities because the buildings in most of our secondary schools today are unsafe or unsuitable for modern and functional education purposes. These objectives cannot be achieved to its full capacity as a result of poor equipment and infrastructures like poor libraries, poor laboratory, poor teaching environment and unsafe accommodation for teachers and students. These infrastructures include insufficient classrooms, lockers, seats, offices for teachers, computer laboratory, science laboratory and dormitory for the students that come from far places. In some cases, some of our highly respected members of the community and the educational administrators collude with the contractors to embezzle the money meant for the construction or reconstruction of the physical facilities as is the case in Rivers state.

According to Benjamin (2001) facilities include: the building, classroom furniture and recreational equipment apparatus and other instructional materials. He went further to say that their availability, relevance, and adequacy contribute to academic performances. In their contribution, Ajayi and Ojunge (2000) reiterated that when facilities are provided to meet relative needs of a school system, students will not only have access to the reference materials mentioned by the teacher but individual students will also learn at their own paces. The net effect of this is to increase the overall academic performance of the entire students. There is actually a general belief that the condition of school's learning environment including infrastructure has an important impact on teachers' effectiveness and students' academic performance (Ayeni and Adelabu, 2012).

The facilities that are needed to facilitate effective teaching and learning in an educational institution include the classrooms, offices, libraries, laboratories, conveniences and other buildings as well as furniture items and sporting equipment. The quality of infrastructure and learning environment has strong influence on the academic standard which is an index of quality factors in the school. Facilities are material resources and they are physical and spatial enablers of teaching and learning which will increase the production of results (Emetaram, 2004). These include building structures, equipment, water, electricity, textbooks, furniture and recreational facilities, among others. They constitute vital inputs which are capable of achieving good results when combined with other resources in adequate quality and quantity. However, poor supply and poor maintenance of facilities are regular features in many secondary schools in Rivers State. This will not encourage a conducive environment for knowledge and skill acquisition (Fasasi, 2006).

Due to the increase in students' enrollment as a result of free education by the government, many schools are having greater number of students in their schools. These students suffer absence of special facilities for learning e.g. desks, and laboratories (Jidamva, 2012). The students who learn science practical under this environments or with poor quality facilities are not able to grasp the science concepts such as doing titration, volumetric analysis, and doing biological experiments (testing) starch and so on. As a result these students perform poorly in the science subjects. As important as secondary education so is the provision of physical facilities and equipment also. Secondary schools need physical facilities and equipment to make learning easy for the teachers and the students. Physical facilities therefore are the material resources that facilitate effective teaching and learning in the school (Moses, 2019). Educational facilities are also essential to build up the cognitive areas of knowledge, abilities and skills which are necessities for academic performance.

Statement of Problem

Over the years, students' performance has prompted educational researchers to continuously make relentless efforts at identifying mitigating factors that might account for the observed poor performance. Research studies suggest that factors inside and outside the classroom affect students' performance. Among other variables identified are teacher factors (teacher quality such as teacher's subject matter knowledge, teacher's pedagogical knowledge, teacher-student relationship, teacher's experience, teacher qualification and others), physical and material resources, resources management and organization, finance and supervision.

Despite different efforts, students continue to exhibit poor performance in schools. In this vein, quality indicators have been linked to be part of the causes of students' poor performance, in this sense there is need to look into these quality indicators in our secondary schools. It is based on the above that this study tends to find out if actually there is a relationship between quality indicators and students' academic performance in public secondary schools in Rivers State.

Aim and Objectives of the Study

The aim of this work was to investigate the relationship between quality indicators and students' academic performance in public secondary schools in Rivers State. Specifically, the study sought to:

- 1) ascertain the relationship between teachers' quality indicators and students' academic performance in public secondary schools in Rivers State.
- 2) determine the relationship between facility quality indicators and student academic performance in public secondary schools in Rivers state.

Research Questions

The following research questions were tested in the study at 0.05 alpha level:

- 3) What is the relationship between teachers' quality indicators and students' academic performance in public secondary schools in Rivers State?
- 4) What is the relationship between facility quality indicators and student academic performance in public secondary schools in Rivers state?

Hypotheses

The following hypotheses guided the study

- 1) There is no significant relationship between teachers' quality indicators and academic performance of students in public secondary schools in Rivers State.
- 2) There is no significant relationship between facilities quality indicators and academic performance of students in public secondary schools in Rivers State.

METHODOLOGY

The design for the study was the correlational design. The population of the study comprised of 257 principals from the 257 public secondary schools in Rivers States, from which a sample of 257 principals from 257 secondary schools representing 100% was drawn using the census method and 546 students were also drawn from 10,000 students through the use of multistage sampling approaches. The principals responded to two structured validated instruments titled Teachers' and Facilities Quality Indicators Questionnaire (TFQIQ) and Students' Academic Performance Record (SAPR) designed by the researchers in the modified 4-point Likert scale model, and its reliability indexes were 0.73, 0.83 using Cronbach alpha method. The instrument was validated by experts in Educational Management and Measurement and Evaluation departments. The instrument had two sections, A and B. Section A was the bio-data section while section B was subdivided into two other sections to elicit information on variables of teachers' quality indicators and facility quality indicators and students' academic performance in public secondary schools in Rivers State. Simple regression was used to answer the research question while t-test associated with simple regression was used to test the null hypotheses at 0.05 alpha level.

RESULTS

Research Question 1

What is the relationship between teachers' quality indicators and students' academic performance in public secondary schools?

Table 1: Simple regression analysis on the relationship between teachers' quality indicators and students' academic performance in public secondary schools

Model	R	R Square	Adjusted R Square	Standard error of the estimate
1	0.186	0.035	0.029	5.59011

Data on Table 1 shows that teachers' quality indicators have a low relationship with students' academic performance in public secondary schools in Rivers State. It shows that teachers' quality indicators contribute 3.50% to students' academic performance in public secondary schools in Rivers State. The remaining 96.50% are accounted for by other variables.

Research Question 2

What is the relationship between facility quality indicators and students' academic performance in public secondary schools in Rivers State?

Table 2: Simple regression analysis on the relationship between facility quality indicators and students' academic performance in public secondary schools in Rivers State.

Model	R	R Square	Adjusted R Square	Standard error of the estimate
1	0.308	0.095	0.090	5.414

Data on Table 2 shows that facility quality indicators have a low relationship with students' academic performance in public secondary schools in Rivers State. It shows that facility quality indicators contribute 9.50% to students' academic performance in public secondary schools in Rivers State. The remaining 90.50% are accounted for by other variables.

Hypothesis 1:

Table 3: t-test associated with simple regression analysis on the relationship between teachers' quality indicators and academic performance of students in public secondary schools in Rivers State.

Model	Unstandardized coefficients		Standardized coefficients	T	P-value (Sig.)
	B	Std. Error	Beta		
Constant	57.498	3.556		16.168	
Teachers' quality indicators	0.236	0.093	0.186	2.527	0.012

Data on Table 3 shows the probability value to be 0.012 which is less than the alpha level of 0.05. Hence there was no significant relationship between teachers' quality indicators and academic performance of students in public secondary schools in Rivers State. Based on the above, the null hypothesis was not rejected.

Hypothesis 2:

Table 4: t-test associated with simple regression analysis on the relationship between facilities quality indicators and academic performance of students in public secondary schools in Rivers State.

Model	Unstandardized coefficients		Standardized coefficients	T	P-value (Sig.)
	B	Std. Error	Beta		
(Constant)	78.938	2.929		26.949	
Facilities quality indicators	-0.466	0.108	-0.308	-4.314	0.000

Table 4 shows the probability value to be 0.000 which is less than the significant level of 0.05. Hence there was no significant relationship between facilities quality indicators and academic performance of students in public secondary schools in Rivers State. Based on the above, the null hypothesis was not rejected.

DISCUSSIONS

The findings revealed that respondents agreed to the fact that teachers’ quality indicators have a significantly low relationship with students’ academic performance. The teacher is a positive thinking person who works hard in making sure that the aim and objectives of education are attained and he/she does this by transferring knowledge to his students and making sure they acquire this knowledge in all aspects. In line with this, Ubah (2012) referred to the teacher as the chief work group of the principal. In support of this, Moses-Promise and Moses (2016) posited that the teacher is the key to functional education in terms of teaching and learning activities and as such, he should be accountable for his academic performance and that of the students he teaches.

From the findings of other researchers, it is clear that quality teachers teach students how to learn and help them to use the models of learning that will support the best academic, social, and personal growth. Quality teachers are the critical determinant of students’ performance. A number of researchers have argued that teacher quality is a powerful predictor of students’ performance. In support, Sanders and Rivers (2006) argued that the single most important factor affecting students’ performance is the teacher and the effect of teachers’ quality on students’ performance are both additive and cumulative.

From the findings, respondents agreed to the fact that facility quality indicators have a significantly low relationship with students’ academic performance. Hence Osuji (2011) described the physical facilities as the space interpretation of the school curriculum. In line with this, Moses and Nwogu (2019) posited that physical facilities, therefore, are the material resources that facilitate effective teaching and learning in the school and these physical facilities are known to be those items of education which enhances instructional effectiveness for a skillful teacher so as to achieve a level that far exceeds what is possible when they are not there.

From the findings of other researchers, it is obvious that the programmes of the school are known through the school site, the buildings, play grounds, the arrangement and design of the buildings. In other words, the school facilities should be well planned to fit into the scope of the curriculum and methods of instruction. School facilities are considered as a potent factor in the high academic performance of students. In support of this, Ajayi and Ojunge (2000) reiterated that when facilities are provided to meet relative needs of a school system, students will not only have access to the reference materials mentioned by the teacher but individual students will also learn at their own paces.

CONCLUSION

Based on the findings of the study, it is concluded that teachers’ quality indicators contribute 3.50% and facility quality indicators contribute 9.50% to students’ academic performance in public secondary schools in Rivers state.

RECOMMENDATIONS

Based on the conclusion of the study, the following recommendations were highlighted.

1. Teachers should improve on themselves and ensure effectiveness in their service delivery and principals should encourage them to attend seminars and workshops to help improve their teaching methods.
2. Facilities available in schools should be put to optimal use and maintained in order to improve teaching and learning and improve students' academic performance.

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