



Research Paper

A Comparative Study of Upper Basic Science Students' Academic Performance in Public and Private School in Taraba State., Nigeria

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ABSTRACT: A school is an organization whose major task is the effective implementation of the curriculum thereby achieving the set goals of education. There are virtually 2 types of labelled as private and public. There is a general belief that learners in private school perform better than their counterparts in public school. This assertion motivated the researchers to carry out a comparative study of students' academic performance in public and private school in Basic Science in Taraba state. The ex-post factor comparative research design was employed for the study. The population of the study was made up of 348 upper basic II students in Jalingo Education Zone, Taraba State. Simple random techniques was used to select 6 schools (3 private and 3 public) out of the whole private and public schools in Taraba State. 19 students from each of the 6 schools make up a total of 116 students. The sample consists of 58 females and 58 males. A fifteen items Basic Science Performance Test (BSPT) constructed by the researchers was used for collecting the data. The 3 research questions guiding the study were answered using mean and standard deviation while the 2 null hypothesis formulated were tested using t -test statistics at 0.5 level of significance. The result of the study revealed that there is no significant difference between the academic performance of private and public school students in Basic Science. It also showed that even though female students of both private and public schools performed slightly better than their male counterparts in basic science, statistical analysis revealed that gender has no significant influence on the academic performance of private and public students in Basic science. it recommended among others that parents and the society should erase the notion that private school students always perform better than public school students.

KEYWORDS: Academic Performance, Basic Science, Public School, Private School, Gender

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I. INTRODUCTION

Basic Science as a subject in Nigeria, introduces pupils and students under basic education programme in primary school to the basic rudiments of science. The National Policy on Education defined the subject as the aspect of education which lead to acquisition of practical and applied basic scientific knowledge. The main reason for teaching basic science is to widen the knowledge of students which enables them to appreciate the unity among science subjects (Nwafor 2013). Appreciating the unity among the science subjects could influence their choice of science oriented career which could in due course enhance scientific development in the nation. Furthermore, Bajah, (1993) opined that the recipients may gain the commonality of approach to solve problems of scientific nature thereby enhancing scientific development in the country. Because of the place basic science occupy in nation building in terms of scientific technological development, NERDC (2007), stipulated that the overall objectives of the Basic Science curriculum are to enable learners:

- Develop interest in science;
- Acquire basic knowledge and skills in science;
- Apply scientific knowledge and skills to meet societal needs;
- Take advantage of the numerous career opportunities offered by science;
- Become prepared for further studies;

For the set objectives to be effectively achieved the Nigerian government provided schools where learners will be trained to acquire scientific knowledge among others. Apart from the establishment of Government schools (public schools), non- governmental organizations also established schools with the hope contributing their quarter to the educational development of the nation. Personal experience showed that most people prefer taking their wards to private schools than government owned schools even when both private and public schools use the same government approved curriculum. The preference of private school over public school may be due to the belief that learners achieve the goals of education better in private school than public school.

Public schools are more accessible than private schools in Nigeria since they are found in cities, as well as villages even in some hamlets. The schools are supported and controlled by the state government. According to Adeyinka (2010) public schools are those schools established, managed, financed, as well as supervised by the government. He further opined that those schools were established with the tax payer's money in order to educate the generality of the people irrespective of their economic, social or political status in the society. Public secondary schools are neither controlled by individuals, private interest groups, or agencies but by the government. Private schools can be referred to the type of educational organizations that are controlled by individuals, interest groups or non- governmental organizations (NGOs). Even though these two types of schools share similar vision of preparing the learner to become self-reliant and useful to the development of the nation, they differ in several ways. Swinson (2018) submitted that public school differ from private school in terms of what the learner learn, tuition, regulation of the school, caliber of teachers, class size and admission policy. The author opined that in private education, the school board and teachers have final say for the curriculum. They can tailor it to be as rigorous or laid back as they see fit. While you will have more wiggle room in the private school curriculum, there can also be gaps in the education. Public schools are all held to the same standard of Common Core and can augment their Common Core curriculum, but each school is expected to meet these standards and each child will be on the same level as their peers in most respects. According to Swinson (2018) Private schools are accountable to private accreditation agencies, such as the National Association of Independent Schools. Public schools, on the other hand, report to the State Board of Education for their accreditation. They also must comply with the local, state, and federal laws, as well as their rules and regulations.

On the issue of teacher certification, research has shown that public school teachers must all be certified. They all pass the same background tests and screenings. Private schools do not require the same certification for their teachers (Swison 2018). However, many private school teachers hold advance degrees in their fields. In line with the opinion of Swison, Grossberg (2017) stated private school need to be certified before teaching. The author submitted that private schools place high value on teacher's experience outside the classroom including professional career. To Grossberg, learning from those who have lived the life brings a whole new dynamic to the classroom experience. This implies that for classroom experience to be exiting to the learner the teacher should be well versed in the subject matter thereby enhancing academic achievement.

Students' achievement has become the key factor for personal progress. The desire to climb the ladder of achievement to as high a level as possible put a lot of pressure on students, teachers, school and in general, the educational system, academic achievement of students is defined as the level of performance in a particular field of study. Higher scores indicate better academic achievement. The concept could also be regarded as the ability to perform a given role effectively. It is regarded as something very good and difficult which was carried out successfully (Eze, 2009). In the educational system, a poor or an under achiever is someone whose performance is constantly below average (Danjuma 2015). The quest for Academic achievement for national development is one of the reasons schools are set up. It is in schools that the curriculum is implemented with the aim of achieving the set educational goals and objectives of the nation. These goals and objectives are to be achieved through teaching and learning of school subjects which Basic science education happens to be one of such subjects.

The learning of basic science in both public and private schools could be influenced by students' gender. The disparity in the performance of males and females in the sciences has been studied over the years. Some of the studies show that girls perform poorly when compared to boys at all levels of science education in Nigeria. Of recent, Nwagbo & Obiekwe (2010) observed that the achievement and the result of learning efficiency of male and female students may be different. However, the writers submitted that this is because some schools, out of omission or commission, provide a platform for channeling children into prescribed gender activities. In another study carried out by Busola (2011), boys were found to perform better than girls in science. However, Danjuma (2015) submitted that gender gap that existed between male and female students in Basic Science achievement is reducing. Although some studies identified gender as one of the issues influencing achievement in science education, the problem might be linked to the type of school learners are exposed to. Personal observation has shown that even though both Private and Public secondary school teachers implement the same basic science curriculum in their classrooms the product of Private schools use to be preferable to the

society in most cases. It is based on this assertion that the researchers became motivated to compare basic science students' academic achievement in Private and Public basic education programme.

Statement of the Problem

As earlier stated, private school students tends to perform academically better than Public School students in most subjects even when the teachers use the same curriculum. The researchers find it necessary to confirm whether this assertion holds true for basic science students under the basic education programme in Taraba State, Nigeria.

Purpose of the Study

The purpose of the study is to investigate the academic performance of students in public and private schools. However, the specific purposes are as follows:

1. The mean performance scores of private primary school students and that of public primary school students in basic science
2. The Mean performance scores of private primary school boys and girls in basic science
3. The Mean performance scores of public primary school boys and girls in basic science

Research questions

1. Does private primary school students perform better than public primary school students in basic science?
2. What is the Mean performance scores of private primary school boys and girls in basic science?
3. Is there any difference in the Mean performance scores of public primary school boys and girls in basic science?

Research Hypothesis

HO₁: There is no significant difference in the performance of private and public primary school students in Basic science

HO₂: Gender does not have significant influence on the performance of public and private primary students' performance in basic science

II. METHODOLOGY

The Expost Facto/Causal comparative research design was employed in the study. The research design is useful whenever two groups differ on independent variables of the groups and the hypothesis about differences on one or more dependent variables of the groups need to be tested. In this study the Expost Facto design is deemed fit because the study attempted to test hypotheses on the performance of two groups which differ on characteristics such as ownership of schools and gender. The population of the study consist 348 upper basic science students in Jalingo education zone of Taraba State. Jalingo Local government area was selected out of the two local government areas in the education zone through simple random sampling because it has the largest number of both public and private primary schools. Simple random sampling technique was used to select 6 schools (3 private and 3 public) for the study. 19 students were randomly selected from each of the 6 schools making up a total of 116 students. The sample of the study consists of 58 females and 58 males. Data was collected with the aid of a questionnaire developed by the researchers and was analyzed using descriptive statistics. The research questions that guided the study were answered using Mean and standard deviation while the null hypothesis was tested using t-test at 0.05 level of significance.

III. RESULT

Research Question 1: Does private primary school students perform better than public primary school students in basic science?

Table 1: Descriptive Statistics on private and public primary school students' performance in basic science

School type	N	Mean	Std
Private	54	13.56	5.142
Public	62	12.15	5.578

In Table 1 above it was revealed that private and public secondary school has the mean of 13.56 and 12.15 respectively with a standard deviation of 5.142 and 5.578; this therefore shows that private secondary school student's performance mean was higher than the performance mean of public secondary school students.

Research Question 2: What is the Mean performance scores of private primary school boys and girls in basic science?

Table 2: Descriptive statistics on the performance of boys and girls in private primary school

Gender	N	Mean	Std
Male	58	12.53	5.394
Female	58	13.07	5.445

From the result of the data presented in Table 2 it was revealed that both male and female students has the mean of 12.53 and 13.07 respectively with a standard deviation of 5.394 and 5.445; this therefore shows that the performance mean of male students in private school was lower than that of their female counterparts in the study area.

Research Question 3: Is there any difference in the Mean performance scores of public primary school boys and girls in basic science

Table 3: Descriptive statistics on the performance of boys and girls in public primary school

Gender	N	Mean	Std
Male	58	12.04	5.007
Female	58	13.46	5.470

Descriptive statistics on table 3 showed the basic science mean performance score and standard deviation of boys in private primary school to be 12.04 and 5.007. Girls on the other hand have the performance score of 13.46 with the standard deviation of 5.470. The table revealed that boys in public primary school perform lower than the girls in basic science in the study area.

HO₁: There is no significant difference in the performance of private and public schools students in Basic science

Table 4. t - test Analysis

School type	N	Mean	Std	Df	T	p-value	Decision
Private	54	13.56	5.142	144	1.409	0.162	Accepted
Public	62	12.15	5.578				

Table 4 shows that the p-value (0.162) is less than the level of significance (0.05) the null hypothesis was therefore accepted rejected since the public schools students performed equally (private = 13.56, SD= 5.142) (Public = 12.15, SD= 5.578) t (144) p= 0.162. this means that there is no significant difference in the performance of private and public primary school students in basic science..

HO₂: Gender does not have significant influence on the performance of public and private basic education students' in basic science

Table 5: t-test Analysis

Gender	N	Df	T	p-value	Decision
Male	58	114	5.31	0.596	Accepted
Female	58				

It was revealed in Table 2 that the null hypothesis was accepted since the p-value is greater than 0.05 the level of significance from the t-test analysis carried out. From table 2 it could be seen that gender did not influence the academic performance of private and public school students in Basic Science.

IV. DISCUSSION

The result obtained from this study showed a slight difference in the Mean achievement scores of students in private secondary school (13.56) and those in public secondary school (12.15) in basic science. However t-test analysis of the null hypothesis (HO₁) revealed that the difference is not significant since the p-value (0.162) is greater than the level of significance (0.05).

The findings of the study is in agreement with that of Nwafor (2015) whose finding revealed that there is no significant difference between public and private secondary school students' achievement in science subjects like biology and chemistry. This implies that school type does not influence students' achievement that much. This implies that Students could excel in whatever school they attend. However the result disagreed with the findings of Samuel (2017) whose work revealed that students in private secondary schools generally perform academically better than those in public secondary schools. The authors finding could be due to chance.

The result of this study is in agreement with that of Aiyedun (2000) who submitted that there is no significant difference in Mathematics achievement between male and female student. The outcome of the study is also in line with the opinion of Oludipe (2012) the author's finding revealed that there was no significant difference in academic achievement of male and female students in Basic Science (both in pretest, posttest and delay posted respectively). But the finding disagreed with that of Nwafor (2015) whose finding revealed that male students in both private and public secondary school outperformed their female counterparts.

A close observation of the result obtained from this study revealed that in the two school type girls outperformed boys. This is an indication that gender gap between the performance of boys and girls in basic science is reducing which is in line with the work of Danjuma (2015) who posited that that the existed gender gap in science is reducing. This implies that girls can excel in any type of school.

V. CONCLUSION

Based on the result obtained, it was concluded that there is no significant difference between the academic performance of private and public school students in Basic Science. This indicate that school type either public or private has no influence on the academic performance of basic science students in Taraba State.

The study also revealed that even though female students of both private and public schools performed slightly better than their male counterparts in basic science but statistical analysis showed that gender has no significant influence on the academic performance of private and public students in Basic science.

RECOMMENDATION

Parents and the society should erase the notion that private school students always perform better than public school students. Government at all level should support the running of both public and private students in Taraba State and Nigeria as a whole. The same study should be replicated in other states of the nation for wider coverage

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