



Assessment of Educational Inputs on Students Performance in Public Secondary Schools, Delta State

Okagbare, C.¹, J. E. Anho (PhD)² & Okagbare, F. (PhD)³

^{1&2} Department of Educational Foundations and Policy Studies, Faculty of Education, Delta State University, Abraka

³ Department of Guidance and Counselling (Measurement and Evaluation) Faculty of Education, Delta State University, Abraka.

ABSTRACT

The study investigated educational inputs and secondary school student's performance in public secondary schools in Delta State. 3 research questions and 3 hypotheses were used in the study. The descriptive and correlation research design was adopted for the study. The population of this study consisted of 39046 which comprise of 38,569 Senior Secondary school 2 students' and 477 Principals in public schools in the twenty-five (25) local government areas of Delta State. The Stratified random sampling techniques was employed to select a sample of 768 which consist of 96 principals and 672 Senior Secondary school 2 students'. The instruments used for collecting data were the self develop questionnaire, check-list and students proforma. The validity and reliability of the instruments were ascertained. Mean and standard deviation, Coefficient of Determination was used to answer the research questions while Pearson Product Moment Correlation was used to test the hypotheses. The findings revealed that there were no educational inputs to influence students performance in public schools, there is a significant relationship between textbook, laboratory and students' performance in public schools. Based on the findings and conclusion, it was recommended, among others that Government and education stakeholders should as a matter of urgency put more efforts in providing educational inputs such as the professional teachers, textbooks, computers, classrooms, libraries, and laboratories among others to make sure that students' performance is improved and sustained, School managers/Administrators should devise means in engaging the private sector with surrounding factories, businessmen and the community in financing education in public secondary schools in Delta State.

Keywords: Textbooks, Laboratory, Students and Academic Performance

Introduction

Students are essential to the functioning of a school because, among other things, the quality of an institution's output determines its ranking in Nigeria. However, the caliber of students accepted into a school influences the caliber of research and instruction conducted there, and it may also have an overall impact on the expected caliber of services the school provides to the country. Studies have indicated that there is a negative correlation between the quality of secondary and post-secondary students in Nigerian schools (Adeleke, Musu & Bolaji, 2013). This has presented curriculum designers and other educational administrators with significant challenges. The challenges they now face are developing and putting into practice instructional interventions that will improve teaching and learning in secondary and post secondary education. To achieve the aforementioned goal, there is need to devise a means of assessing and analyzing students' academic performance early enough, and as well classify them into different categories so as to provide better educational services that is suitable for each group.

To improve the convenience of educating and learning movement, there ought to be sufficiency of material, learning resources such as textbooks, teaching aids, laboratory equipment and adequate students to teacher ratio in the school or classroom setting. In spite of efforts by the Delta state government through its policies to improve the functionality and quality of education, the academic successful performance of students across the three Senatorial District of the state has continued to suffer some decline. This is because many students in secondary schools in the state lack adequate teaching and learning material resources ranging from library books, learning/drawing materials/studios and functioning science laboratories

Educational inputs are the inputs that determine the academic cognitive, affective and psychomotor domains of students; the educational inputs could consist of classroom, teachers, books, physical facilities and instructional management acquired to instruct students throughout the school year to ensure the effectiveness of teaching and learning. Students are usually the focus of the process within and outside the classroom. The academic performance of students is therefore dependent not only on the educational resources to which they are exposed in the last class but also on the cumulative resources in the beginning of the first grade (Eboatu, 2010). Educational Inputs are important resources which include students, finance, teachers, administrators, buildings, books and equipment. Educational Inputs consist of curricula, school management services, organization and administrative variables, educational research activities, school feeding. It had also been expressed as students versus teachers' time, and on socio economic background of students, teaching style, motivation and other behavioural attitudes of teachers. Organizational variables like class size, students' teacher ratio, books, location of school as well as previous achievement or test scores are also regarded as inputs. For a school to function effectively, a wide range of resources

such as textbooks, stationary, audiovisual materials, laboratory equipments and materials, and comfortable furnished classrooms, teachers, library should be of good quality and sufficiently available at all times. Students, teachers, and school administrators often spend substantial part of their lives in school and so the quality of life in school is therefore important, even if it has no effect on students' chances of adult success. It is not additionally known if this educational inputs supplied by government and other education stakeholders like P.T.A are appropriate for the level of students in public secondary schools.

Over the last few decades, there was great employment of untrained and unqualified teachers into the teaching profession in a Nigerian school system. Teaching became a means to survival for many as such it was used as a stepping stone to greener and better pasture. The consequence of this was the influx of incompetent teachers in the schools' system thereby resulting in persistent student failure in internal and public examinations (Gana, 2007). Igabari and Okagbare (2023) opined that teachers' experience and teaching qualification have influence on students' academic achievement in various subjects. Most teachers lack manipulative science laboratory tool during teaching and learning of science practicals (Igabari & Okagbare, 2023). To meet the standard of technological development in any organization there is a need for training and retraining of teachers. Atakpo (2017) stated that teachers should be trained to meet the technological advancement in the classroom when impacting knowledge. Despite the various input to improve the quality of education students in public schools still perform very poor in various subjects.

This implies the need to assess educational inputs on students' performance in public schools. What is worrisome is that there seems to be a paucity of empirical study in Nigeria. This necessitated this study; therefore the study is set to assess the influence of educational inputs on secondary school students' performance in public secondary school in Delta state.

Statement of the problem

The steady decline of students' performance in various school subjects from year to year in both teacher-made and standardized examination have created worry among education stakeholders across the state and researchers are delving seriously to finding solution to the problem of this downward performance. Poor or absence of educational inputs like textbooks, teachers, and quality library among others may have contributed to this unaccepted performance of students in public schools. However the existence and survival of school classroom settings, school environment, playing ground, laboratories, library, school buses, the strategies used by teachers during the teaching and learning situations, principal management styles, students readiness to learning all has direct link to the poor performance of students in both basic and post basic schools. Facilities such as chairs, tables and chalkboard in our basic schools in rural area have nothing to write about as students and pupils often sit on the floor to achieve learning success. The justification for the study is therefore put in a question form is: "what are the educational inputs that influence the academic performance of public secondary school students in Delta state?"

Research Questions

The following research questions guided the study.

1. What are the available educational inputs that influence students' performance in public secondary schools in Delta State?
2. What is the relationship between textbooks as educational input and students' performance in public secondary schools in Delta State?
3. What is the relationship between well equipped laboratory as educational input and students' performance in public secondary school in Delta State?

Hypotheses

The following hypotheses were tested at 0.05 level of confident;

1. There is no significant relationship between available educational inputs and students' performance in public secondary schools in Delta State.
2. There is no significant relationship between textbooks as educational input and students' performance in public schools in Delta state.
3. There is no significant relationship between well equipped laboratory as educational input and students' performance in public secondary schools in Delta state.

Purpose of the study

1. find out the available educational inputs that influences students performance in public secondary schools in Delta State;
2. examine the relationship between textbooks as educational input and students' performance in public secondary schools in Delta State;
3. ascertain the relationship between well equipped laboratory as educational input and students' performance in public secondary school in Delta State.

Methodology

Research Design

Ex-post facto using the correlation and descriptive research method was used for the study. The correlation design was used to determine the relationship between the independent variable (educational inputs) and the dependent variable (student performance) in public secondary schools of Delta State. The descriptive research design involved the systematic collection of data from a target population using questionnaire and checklist and students' academic proforma as instruments that generated data for the study.

Population of the Study

The population of this study is 39046 which comprise of 38,569 SSS 2 students' and 477 Principals in public schools in the twenty five (25) local government areas of Delta State. The Senior Secondary school 2 students' was used because the researcher believed that they were able to give the required data for the study. The number of public schools is 477 in Delta state according to Delta state Ministry of Secondary Education (2024).

Sample and Sampling Techniques

The sample of this study is 768 which consist of 96 principals and 672 Senior Secondary school 2 students' respectively drawn from the population of the study. Stratified random sampling techniques was used to draw the sample. The stratification is based on senatorial Districts of the state (Delta North, Delta Central and Delta South). In other word, 34 public schools from Delta North, 38 public schools from Delta Central and 24 schools from Delta South, making a total of 96 public senior schools across the 25 local government areas of Delta state. Secondly, 7 students was drawn from each sampled school through simple random sampling techniques (SRST) by a balloting method. In the balloting method every students will have equal chance of being selected into the sample.

Research Instrument

The main instruments for the study in the collection of data are the self-developed questionnaire, check-list inventory and students' academic proforma. The 30 items statement questionnaire was used to obtain students response on educational inputs and students' performance. The questionnaire is titled "Influence of Educational Inputs Questionnaire (IEIQ) with four point scale of Strongly Agree (S.A)=4, Agree (A)=3, Strongly Disagree (S.D)=2 and Disagree (D)=1 as shown in appendix B. The check-list indicates the presence or absence of an item or statement. It is titled "Educational Input Check-List" (EIC). 50 items statement is developed to obtain principals response on five sub-scales which measure availability of educational inputs (textbook, laboratory, library, finance and teachers) on two point scale of YES OR NO. The other instrument student academic performance proforma was used to collect students result for 2021, 2022 and 2023

Validity of Research Instrument

The face and content validity of the questionnaire and check-list was established by three (3) experts. Two are from Guidance and Counseling Department and the other expert is the researcher's supervisor. These experts assessed the instruments for appropriateness and suitability for the study, and their suggestions were effected as correction(s). The questionnaire was produced and distributed to the experts, who determined and analyse its relevance and suitability for the study. They evaluated the instrument and gave helpful recommendations that were implemented. The instruments' face and content validity was determined by the experts opinion

Reliability of the Instrument

The reliability of the questionnaire was carried out on 40 SS2 senior secondary students in Edo State. Data collected through the test was used to compute the reliability of the instrument. To evaluate whether the instruments exhibit internal consistency, the data was analysed using the Cronbach alpha reliability coefficient to estimate the internal consistency of the research questionnaire which yielded a coefficient of 0.63 showing that the instrument is consistent and reliable.

Administration of the Instrument

The instruments was administered to senior secondary school students and principals in the selected sampled schools with the help of two (2) research assistants who will be properly trained on the purpose of the study. A copy of the check-list would be given to 96 principals and the questionnaire to 672 students to complete. To ensure 100% recovery of the instrument, all copies of the instrument were immediately retrieved on the same day after completion.

Method of Data Analysis

Three statistical methods of data analysis were used for the study. They are mean, Pearson Product Moment Correlation Coefficient (PPMCC) and linear and multiple regression in Statistical Package for Social Sciences (SPSS) Software version 23. The mean was used to answer research question one while Coefficient of determination was used for research questions two and three and the hypotheses were tested using Linear and Multiple Regression at 0.05 levels of significance to determine the significant relationship between the depend and independents variables.

DISCUSSION OF RESULTS

Research Question One: What are the available educational inputs that influence students' performance in public secondary schools in Delta State?

In order to answer this research question 1, the educational input instruments were rated on the availability of the inputs that influence of students' performance as shown in table 4.1

Table 1: Mean Responses of available Educational Inputs that Influence Students Performance in Public Schools

Educational Inputs	N	Mean (\bar{X})	Std. Deviation	Decision
A. Textbooks Inputs				
English Language textbooks	96	1.5052	.50030	No
Mathematics textbooks	96	1.5195	.49994	No
Mathematics workbooks	96	1.5990	.49043	No
English Language workbooks	96	1.5846	.49311	No
Chemistry textbooks	96	1.3125	.46381	No
Physics textbooks	96	1.3229	.46790	No
Geography textbooks	96	1.3620	.48089	No
Biology textbooks	96	1.7578	.42869	No
Economics textbooks	96	1.5104	.50022	No
Literature textbooks	96	1.5234	.49978	No
Commerce textbooks	96	1.5990	.49043	No
Government textbooks	96	1.5807	.49376	No
Civic textbooks	96	1.3125	.46381	No
Marketing textbooks	96	1.3216	.46740	No
Christian Religious Study textbooks	96	1.3646	.48163	No
Agricultural Science textbooks	96	1.7565	.42947	No
Accounting textbooks	96	1.5182	.49999	No
History textbooks	96	1.6042	.48935	No
Further mathematics textbooks	96	1.5781	.49418	No
Grand mean of availability of textbooks Inputs		1.67	0.51	No
B. Laboratory Inputs				
Chemistry laboratory	96	2.50	1.2812	Yes
Physics laboratory	96	2.57	1.4583	Yes
Biology laboratory	96	2.32	1.5000	Yes
Agricultural science laboratory	96	2.00	1.5417	No
Technical laboratory	96	2.00	1.4583	No
Home Economics laboratory	96	2.00	1.5417	No
Language laboratory	96	2.00	1.5417	No
Grand mean of availability of Laboratory Inputs		2.24	1.47	No
C. Library Inputs				
My school have a library	96	1.6458	.48077	No

Chemistry library	96	1.5625	.49868	No
Physics library	96	1.2917	.45692	No
Biology library	96	1.5208	.50219	No
Agricultural science library	96	1.5208	.50219	No
Grand mean of availability of Library Inputs	96	1.51	0.4	No
D.Finance Inputs				
Government subverture	96	2.6458	.48077	Yes
P.T.A levies	96	1.5417	.50088	No
Tuition fees	96	1.5417	.50088	No
School fees	96	1.6458	.48077	No
Farm proceed	96	1.5625	.49868	No
Uniform levies	96	1.2917	.45692	No
Hiring of hall	96	1.5208	.50219	No
Old students association dues	96	1.5208	.50219	No
Students pay for school badges	96	1.6458	.48077	No
Grand mean of availability of financial Inputs	96	1.96	0.57	No
E.Teacher Inputs				
Qualified teachers with B.Sc (Ed)	96	2.5583	.50088	Yes
Teaching effectiveness	96	2.5417	.50088	Yes
Assignment	96	1.5208	.50219	No
Knowledge of subjects	96	2.2812	.45197	No
Marking of tests	96	2.4583	.5858	No
Coordination	96	2.5000	.50262	No
Discipline	96	1.5417	.50088	No
Training	96	1.4583	.50798	No
Supervision	96	2.5417	.50448	No
Provision of materials	96	2.6417	.52088	No
Grand mean of availability of Teacher Inputs		2.20	.49	No

Bench Mark: 2.50

Table 1 clearly highlighted the grand mean of the availability of educational inputs covered in the study. Library as educational input ranked lowest among principals ($\bar{X} = 1.51$), followed by textbook as educational input ($\bar{X} = 1.67$), finance as educational input ($\bar{X} = 1.96$), teachers educational input ($\bar{X} = 2.20$), and laboratory as educational input ($\bar{X} = 2.24$). This implies that library, textbook, finance, teachers and laboratory as educational inputs were not available to influence students performance in public secondary schools in Delta State.

Research Question Two: What is the relationship between textbooks as educational input and students' performance in public secondary schools in Delta State?

Table 4.2: Coefficient of Determination of textbook as educational input and average students' performance for 2019-2021

Variable	N	R	r ²	r ² %	Decision
textbook as educational input					
students performance					

672 .077 .006 0.6 positive relationship

Table 2 showed the r-value of 0.077 as the amount of relationship between textbook as educational input and students' performance. The coefficient of determination (r^2) is .006 and the amount of contribution of textbook as educational input to students' performance is 0.6. The result showed a weak positive relationship between textbook as educational input and students' performance for 2021-2023

Research Question Three: What is the relationship between well equipped laboratory as educational input and students' performance in public secondary school in Delta State?

Table 3: Coefficient of Determination of well equipped laboratory as educational input and average students' performance for 2021-2023

Variable	N	R	r^2	r^2 %	Decision
laboratory as educational input					
students performance	672	.97	.94	94	positive relationship

Table 3 showed the r-value of 0.9 as the amount of relationship between well equipped laboratory as educational input and students' performance. The coefficient of determination (r^2) is 0.94 and the amount of contribution of well equipped laboratory as educational input to students' performance is 94. The result showed a very strong positive relationship between laboratory as educational input and students' performance for 2021-2023

Testing of Hypotheses

Hypothesis One

There is no significant relationship between available educational inputs and students' performance in public secondary schools in Delta State.

Table 4: Multiple regression analysis of educational input and average students' performance for 2021-2023 in Mathematics

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	936.713	5	187.343	1.231	.301 ^b
Residual	13702.193	90	152.247		
Total	14638.906	95			

Table 4 reveals a linear regression output of the relationship between available educational inputs and students' performance. The computed F-value of 1.231 and a p-value of 0.301 were shown, testing the null hypothesis at an alpha level of 0.05, the p-value of 0.301 is greater than the alpha level of 0.05. Thus, the null hypothesis therefore upheld. This indicates that there is no significant relationship between available educational inputs and students' performance. The R-square (r^2) value of .064 showed that 6% of variance in students' performance was accounted for by available educational inputs.

Hypothesis Two

There is no significant relationship between textbook as educational input and students' performance in public schools in Delta state.

Table 5: Pearson Product Moment Correlation between textbook as educational input and students' performance in public schools in Delta state

variable	N	R	r^2	r^2 %	p-value	Remark
textbook	672	.077	.006	0.6	.047	Significant
Students performance	672					

Alpha = 0.05

Table 5 shows a Pearson Product Moment Correlation analysis output of the relationship between textbook as educational inputs and students' performance for 2021-2023 in Mathematics ($r = 0.77$, alpha level = 0.05). Testing the null hypothesis at an alpha level of 0.05, the p-value of .047 is less than the alpha level of 0.05. Thus, the null hypothesis therefore rejected. This indicates that there is a significant relationship between textbook as educational inputs and students' performance. The R-square (r^2) value of .006 showed that 0.6% of variance in students' performance was accounted for by textbook as educational inputs.

Hypothesis Three

There is no significant relationship between well equipped laboratory as educational input and students' performance in public schools in Delta state.

Table 6: Pearson Product Moment Correlation between well equipped laboratory as educational input and average students' performance for 2021-2023 in Mathematics

variable	N	R	r ²	r ² %	p-value	Remark
well equipped laboratory input	672					
		.97	.94	94	.976	Not Significant
Students performance	672					

Alpha = 0.05

Table 5 reveals a Pearson Product Moment Correlation analysis output of the relationship between well equipped laboratory as educational inputs and students' performance for 2021-2023 in Mathematics. The computed R-value of .97 and a p-value of .976 were shown, testing the null hypothesis at an alpha level of 0.05, the p-value of .976 is greater than the alpha level of 0.05. Thus, the null hypothesis therefore accepted. This indicates that there is no significant relationship between well equipped laboratory as educational inputs and students' performance.

Discussion of results

The study is an educational inputs and secondary school students' performance in public secondary schools in delta state. The findings were discussed as follows:

Available educational inputs that influence students' performance in public secondary schools in Delta State

Data obtained from research question one and its hypothesis seek to find out the available educational inputs that influence students' performance in public schools of Delta state. Findings from the analysis shows that textbook, laboratory, library, finance and teachers as educational input were not available and hence do not influence students' performance. The reason for this finding could be that top government officials mismanage appropriation funds met for educational inputs. This finding agrees with the finding of Otara & Niyirora (2016) whose study revealed that it is obvious that schools without qualified teachers, textbooks or learning materials will not be able to do an effective job in terms of student's performance. This finding also agrees with that of Yara (2011) who stated that the academic performance of students is therefore dependent not only on the resources to which they are exposed to.

Textbooks as Educational Input and Students' Performance in Public Secondary Schools in Delta State

Data obtained from research question two and its hypothesis seeks to find out the relationship between textbook as educational input and students' performance in public schools of Delta state. The finding from the analysis shows that there was a weak positive relationship between textbook as educational input and students' performance. This weak positive relationship is as a result of schools not providing adequate and clear learning textbook for teachers and students to use to enhance new knowledge. This finding is in line with the study of Rashida (2016) who believed that textbooks is an important instructional materials used to achieve an academic endeavor. The finding also agreed with the study of Akpotu (2014) which revealed that quality of textbooks is a link that serves as a determinant to quality of education (students' performance). The finding also agreed with the study of Akungu (2014) who stated that inadequacy of textbook resources has a correlation with the performance of students.

Laboratory as Educational Input and Students' Performance in Public Secondary Schools in Delta State

Data obtained from research question three and its hypothesis seeks to find out the relationship between laboratory as educational input and students' performance in public schools of Delta state. The finding from the analysis shows that there was a high positive relationship between laboratory as educational input and students' performance. This high relationship is as a result of students involving in an active learning process by means of hired laboratory equipment during practical classes. This finding is in line with the study of Adeyemo (2012) who established that availability of a well-equipped laboratory contribute significantly to students' academic achievement like chemistry, biology and physics. The finding also agreed with the study of Bathsheba, Damak, Wajim and Akwayamai (2020) whose result reveals that students' academic performance can be influence positively by the use of laboratory equipment in explaining the abstract topics.

Conclusion

Based on the forgoing findings the following conclusions were made. There were no available educational inputs to influence students' performance in public senior secondary school in Delta State. The study also concluded that, there was significant relationship of educational inputs (textbook, laboratory, library, finance, teachers and students performance public senior secondary schools of Delta State.

Recommendations

In respect of the findings and conclusion, the following recommendations are made:

1. Government and education stakeholders should as a matter of urgency put more efforts in providing educational inputs such as the professional teachers, textbooks, computers, classrooms, libraries, and laboratories among others to make sure that students' performance is improved and sustained.
2. School managers/Administrators should devise means in engaging the private sector with surrounding factories, businessmen and the community in financing education in public secondary schools in Delta State.
3. The government through Post Primary Education Board (PPEB) should make sure that quality education is provided from pre-primary school to lower secondary school in order to improve students' performance.

References

- Adeleke, M. S., Musa, U. & Bolaji, F. (2013) Determinants of Students' Academic Performance In Senior Secondary School of Ekiti State.
- Adeyemo, S. A. (2010). The relationship between students participation in school based extracurricular activities and their achievement in physics. *International Journal of science and technology Education Research*. vol.1(6), pp. 111-117.
- Akpotu, N. E. (2014). *Demography and Educational Planning Techniques for Developing Countries*. University printing press, Delta state university, abiraka, Nigeria.
- Atakpo, T. E. (2017). *Information and communication technology in early childhood education*. Basic Education in Nigeria. West and Solomon Publishing Coy Ltd.
- Bathsheba, A. J., Damak, J. D., Wajim, D. & Akwayamai, P.J. (2020). Influence of the Availability of Laboratory Facilities on Academic Performance of Students in Biology in Senior Secondary School of Jalingo Local Government Area of Taraba State, Nigeria. *African Scholars Journal of Contemporary Education Research (JCER-8)*.
- Eboatu, V.N. (2010). *Impact of Class Repetition and Mass Promotion on Students Academic Achievement in Anambra State*. - Unpublished Dissertation, Nandi Azikiwe University, Akwa, Nigeria.
- Gana, F. O. (2007). *Location and Resource Factors in the Development of the Nigerian Army Schools 1980-1984*. Unpublished Ph.D. thesis, University of Ibadan, Nigeria.
- Igabari, Q. E. & Okagbare, F. (2023). Qualification, teaching experience as determinants of test development skills of physics teachers in Delta Central Senatorial District of Delta State. *KWASU International Journal of Education (KIJE) 6 (1)*, 86-93
- Otara, A. & Niyirora, A. (2016). Educational inputs: A defining factor in planning for quality secondary education in Rwanda. *International Journal of Development and Sustainability ISSN: 2186-8662 – www.isdsnet.com/ijds Volume 5 Number 3 (2016): Pages 120-136 ISDS Article ID: IJDS15102901*.
- Rashida, I. K. (2016). [Resource Inputs As Correlates To Achievement Of Students At Upper Basic Education Level In Benin City, Edo State](#). *ATBU Journal of Science, Technology and Education - atbuftejoste.com*.