The Impact of School Location on Students' Achievement in Basic Technology in Nigerian Secondary Schools

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Abstract

The research work examined the impact of school location on students' achievement in Basic Technology in Nigerian secondary schools. Egor Local Government Area of Edo State was the location employed for the study. A total of 50 respondents were selected for this study from the public secondary schools in Egor Local Government Area; from both urban and rural locations. The instrument that was used – the Basic Technology Achievement Test (BTAT): an instrument developed by the researcher that conforms to an ex-post facto research design. For the study, one hypothesis was tested. Junior Secondary School (JSS) III Students were selected for the study and the data obtained was analyzed using mean and standard deviation for the scores while t-test was used for test of significance of influence at .05 level. The findings revealed that there was a significant level of influence of school location on academic achievement in Basic Technology.

1. Introduction

Education enables the learner to know about the past, the present and contribute to the development of society. Education is the wise, hopeful, and respectful cultivation of learning undertaken in the belief that all students have the chance to share in life. It entails cultivating a hopeful environment and relationships for learning. Technical, Vocational Education and Training is a type of education that provides the learner with knowledge, competencies, and power to be self–employed [1]. Technical, Vocational Education and Training (TVET) is that aspect of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding, and knowledge relating to occupations in various sectors of economic and social life. The broad goals of TVET are as follows:

- Provide trained manpower in applied sciences, technology, and business particularly at craft, advanced craft, and technological levels.
- Provide the technical knowledge and the vocational skills necessary for agricultural, commercial, and economic development.
- Give training and impact the necessary skills to the individual who shall be self-reliant economically [2]. Basic Technology is a component of TVET which is at the level of junior school secondary education.

Pre-vocational education is an aspect of TVET that introduces children and youths to the world of work through exploratory activities with tools, machinery, materials, and processes of modern technology as part of general education for effective living in an environment that has become technological [3].

The exposure of students to pre-vocational education also helps them explore their interests and aptitudes, students may also develop desirable traits and aptitudes such as pride in productive work and respect for authority [4]. At the junior secondary level of education in Nigeria, Basic Technology is one of the compulsory subjects.

The main purpose of Basic Technology at this level is to make the young learners create change in their learning environment. Basic Technology is taught in the junior secondary school with the incorporation of many subjects which include woodwork, metalwork, electrical/electronics, mechanics, technical drawings, and local crafts to enable students of that school-age to be abreast with basic skills for useful living in the society. The objectives of Basic Technology are as follows:

- To provide pre-vocational orientation for further training in technology.
- To provide basic technological literacy for everyday living.
- To stimulate creativity and innovation [5].

The above objectives of Basic Technology are laudable, there seem to be locational impediments that may not allow for the easy realization of the objectives.

School location is an important factor to be considered when discussing the academic performance of students. The community where the school is located could either be rural or urban and

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since the community forms part of the school environment, it therefore means that the community has a part to play in the students' academic performance. Some schools are located in urban areas while some others are in rural areas.

Urban schools have the advantage of having more teachers because of the amenities present in the cities. They have access to good roads, telephone networks, pipe-borne water, and other social amenities. Schools in Urban locations are closer to the Education ministry and so get firsthand information about academics.

Schools that are located in rural areas may not have access to electricity supply, and therefore may not be able to use computers and modern equipment. Schools located in the rural areas may depend on generators or solar solutions for power supply which require funds to be maintained and operational. Furthermore, schools in such areas may not have qualified teachers to teach subjects. This may influence the performance of students in Basic Technology. The distance of the school from homes in the rural areas is also an issue, students may have to trek long distances to attend school, and after trekking such long distances, the students may be tired and this could influence their performance particularly in Basic Technology that is practical oriented and energy demanding. In a study [6] on the academic performance of students in rural and urban school located areas of Ekiti State, Nigeria, it is noted that lateness and absenteeism is an imminent problem and when students come late to school or are outright absent, performance academically will be affected negatively. Schools in the urban areas are exposed to modern facilities and teaching materials which may not be readily available in schools located in rural areas.

In a study [7] carried out in Delta state of Nigeria wherein the influence of gender, School Location and Students on academic achievement in Basic Technology was investigated, 56,800 JSS III Basic Technology students were randomly sampled from the JSS III students from the 826 State owned secondary schools in the state via a questionnaire. The collected data was analyzed using mean, standard Deviation, t-test and analysis of variance (ANOVA) – and the major finding of the study was that location influenced academic achievement in Basic Technology since students located in the urban areas students performed better than students located in the rural areas mainly due to accessibility to better qualified teachers and facilities. Another study [8] from 2015 that was carried out in Delta State investigated the relationship between school location and academic performance of students in introductory technology subject in urban and rural areas of Sapele Local Government Area of the state via a tailored questionnaire on a population consisting of 100 secondary school students drawn from JSS II and JSS III. The study revealed that there is a relationship between school location and students' academic performance.

It may also be worthy to note that Delta state is a neighboring state to Edo State and that both were a single state in the past.

In a related study [9], the impact of school location on academic performance of Science Students in Senior Secondary School Certificate Examinations was examined via an Ex-post facto research design. 120 science students were sampled: 20 students from six public secondary schools. The schools were stratified according to Local Government Areas. From the findings of this particular study, it was concluded that the situation of schools and students' academic performance are not the same in old and new public secondary schools in Ogun State, Nigeria. Among the recommendations of this study is that principals and staff must work together as a team to create a good learning environment.

A very relatable study to this work was carried out in 2017 [10]. The study investigated on the relationship between school distance and the academic achievement of primary school pupils in Ovia North-East Local Government Area of Edo State. Four research questions guided the study and three hypotheses were tested. The population of the study comprised all primary schools in Ovia North-East Local Government Area. There were 101 primary schools at the time out of which 20 schools (20%) were sampled using the random sampling technique and 100 teachers were employed as sample for the study. The research instrument was a Structured Questionnaire on Academic Achievement of Primary school pupils (S.D.A.A.Q) and the findings of the study revealed that there is a relationship between school location and students' academic performance. Based on this, the study recommended that school buses should be made available to convey the students to and fro their schools so to overcome the problem of lateness and tiredness on the part of the students as well as to enhance their academic performance.

On the foreign scene, from a validation study [11] carried out in 2009, it was revealed that urban high school students, as compared with their rural counterparts, are more likely to do homework for adult-oriented reasons. The study involved using 681 rural and 306 urban high school students. It was recommended that families in the rural area need to pay more attention to their children and to help and motivate them to do better.

The location of the school has a bearing on the academic performance of students. The community where a school is located can influence positively or negatively on the objectives of the educational process by either being supportive and friendly to the school or not. The environmental condition of a setting helps to a large extent in ensuring the attainability of a goal of such a setting.

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The community where the school is located could either be rural or urban and since the community forms part of the school environment, it, therefore, means that the community has a part to play in the students' academic performance.

1.1. Location of the Study

The location of the study is Egor Local Government Area (LGA) of Edo State.
Nigeria is a West African Country that is comprised of 36 States and a Federal Capital Territory (F.C.T). Edo is a state in the Southern Part of Nigeria that is comprised of 18 Local Government Areas with its Capital as Benin City. The Egor is the smallest Local Government Area in terms of Land Mass with an area of 93km^2 but has the 3rd largest population density after Oredo and Ikpoba-Okha Local Government Areas. It is highlighted in blue in Figure 1. The headquarters of Egor is the town of Uselu.

Figure 1. Location of the Study

2. Statement of the Problem

The world today is technology-driven, the objective of Basic Technology as a Pre-vocational subject is to provide the learner with the appropriate skills to create change technologically in their environment.

The teaching and learning of the subject have been faced with many problems which can impede the realization of the objectives. So many factors seem to be influencing the achievement of students in Basic Technology. School location has a significant effect on students' academic achievement [12].

Observation has shown that school location contributes to the achievement of students. The problem of this study put in a question form is:

What is the Influence of School location on academic achievement of Students of Basic Technology in Edo State?

Based on this, the researcher wishes to investigate the influence of school schools in urban and rural areas on the academic achievement of students in Basic Technology in Edo state.

3. Research Question and Hypothesis

The research question that was investigated in this study is:

- To what extent does school location influence students' academic achievement in Basic Technology in Egor Local Government Area of Edo State?

The hypothesis that was tested in this study is:

- There is no significant difference between the performance of students in urban and rural locations of Basic Technology in Egor Local Government Area of Edo State.

4. Significance of the Study

The finding of the study will be of immense benefit to the following stakeholders: researchers, teachers, students, education planners and administrators, parents, and the government. The government at all levels will have firsthand information about Basic Technology. This information will enable them to make decisions that would bridge the gap that may result from the study; the government will be encouraged from the findings of this study to improve on school environment to enhance students' academic achievement.

The findings of this study will be of immense benefit to the ministry of education. If the findings are published, the ministry will have information about the shortage of teachers and so be able to make optimized decisions on Basic Technology teachers' recruitment, fund allocation, and make other decisions that will enhance academic achievement.

The findings of this study will be of great value to the teachers if disseminated through teachers' workshops. The teachers will be informed of the importance of both human and material resources within the school environment and consequently employ them in the process of teaching and learning the subject. This study will be of great significance to parents, the responses from the government to the findings will be eye-opener to parents on the benefits of Basic Technology, and parents will be convinced of the actual expectations of their children.

The students of Basic Technology will benefit from this study; this work will be a reference material in the library for students. Students will be exposed to the importance and objectives of Basic Technology.

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The researcher will also benefit from the findings of this study, if the results are published, it will form a useful framework for further research work for researchers who may want to replicate the study in the future.

5. Design of the Study

The researcher intends to use an ex-post facto research design for this study, the design is chosen because the phenomenon already exists and the investigator wishes to search back for possible factors that contributed to the occurrence of the phenomenon. The design will be very useful to this study because the design is appropriate in situations where the variables involved in the study do not lend themselves to experimental manipulation and where direct control cannot be exercised by the investigator. The researcher seeks to find out the factors that contributed to the poor performance of students in Basic Technology as a subject in Edo State.

6. Population of the Study and Instrument of the Study

The population of this study consisted of the JSSIII students in public secondary schools in Egor Local Government Area of Edo State.

Table 1. Population Size

Sampled Schools	Location	Number of Students	Number of Teachers
Iyoba Girls' Junior Secondary School	Urban	25	2
Urora Junior Secondary School	Rural	14	2
Eweka Junior Secondary School	Rural	11	1
		50	5

The instrument used for the collection of data for this study is Basic Technology Achievement Test (BTAT). BTAT consisted of two sections A and B, section A was demographic requesting the students to indicate the name and location of their school. Section B consisted of 15 past questions and the results of the junior secondary school certificate examination.

Table 2. Test of Significance

Groups	N	X	SD	df	$t - cal$	$sig.$ p	$remark$
Rural	25	42	1.04	48	2.64	.01	**sig.**
Urban	25	63	1.09				

From Table 2 above, it can be seen that 25 students of Basic Technology were sampled from both the urban and rural locations each.

As shown from table 2 above, the t-calculated value is 2.64 at a level of significance of .01. This p-value is less than the p-value of .05 ($t = 2.64, P < .05$) and this is evidence to reject the null hypothesis: There is no significant difference between the performance of students in urban and rural locations of Egor Local Government Area of Edo State in Basic Technology. This goes to show that School Location Influences Students' Academic Achievement in Basic Technology in Egor Local Government Area of Edo State, Nigeria.

7. Analysis of Findings

The average score of the students from the rural area is 42 while the average score of the students from the urban area is 63 – both on a scale of 100. The standard deviation of the scores of the students in both locations is relatively low and this is statistical proof

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that the scores of the students are similar to the averages.

8. Recommendations

It is the recommendation of this work that the government should provide facilities needed for the teaching of Basic Technology in rural schools. It is also the recommendation of this study that the government should provide periodic refresher training for teachers particularly those domiciled in schools located in rural areas.

9. Conclusion

It is the recommendation of this work that the government should provide facilities needed for the teaching of Basic Technology in rural schools.

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