

INFLUENCE OF TECHNOLOGY ON THE EDUCATION OF STUDENTS IN SECONDARY SCHOOLS IN ENUGU STATE

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Abstract

This study investigated the influence of technology on the education of students in secondary schools in Enugu State. Two research questions and two null hypotheses guided the study. The researcher adopted descriptive survey research design for the study. The researcher restricted the study among the public secondary schools in Enugu Education Zone. The population for the study was 142 respondents which comprised 31 principals and 111 teachers from the 31 secondary schools in Enugu Education zone. The researchers purposively sampled one Education Zone as well as the teachers' population. The instrument for data collection was a researchers' developed questionnaire titled "Influence of Technology on the Education of Students Questionnaire (ITESQ) which contained 10 items. The instrument was validated by three research experts. The reliability of the instrument was determined by the use of Cronbach Alpha method which yielded 0.80 for cluster 1 and 0.79 for cluster 2 with an overall reliability index of 0.80 which made the instrument reliable and was used for data collection. Mean and standard deviation were used to answer the research questions while t-test statistic was used to test the hypotheses at .05 level of significance. The findings of the study revealed among others that technology influences the education of students in terms of students' records to a great extent. Based on the findings, the study recommended among others that public secondary school stakeholders should make use of educational technologists to sensitize teachers on how to use technologies in the education of students especially in students' records and students' personnel management.

Keywords: Influence, Technology, Education, Students, Secondary Education.

Introduction

Quality education has been the backbone of development in most countries of the world. The importance of education in the development of any nation cannot be over-emphasized. Education has been accepted globally as an instrument for national development and transformation (Federal Republic of Nigeria (FRN), 2013). Education attracts a huge expenditure of the government worldwide. Educated individuals are seen to be crucial catalyst for any economy through driving technological diffusion and utilisation, among

others (Osabuohien and Efobi, 2012). It makes an individual civilized, refined, cultured and educated (Ikegbusi, 2012). This, therefore, calls for effective management of educational institutions and their facilities in order to face the challenging task as well justify the huge expenditure on education. It is observable that there is population explosion in educational institutions at all levels.

Education at secondary school level is defined by the FRN (2013) as the form of education children receive after primary education and before the tertiary stage. Contemporary researches have reported a continuous trend in the poor performance of secondary school students in various subjects, especially as indicated in the results of external examinations (Unanma, Abugu, Dike and Umeobika, 2013). The performance of secondary school students in Nigeria has been and is still a source of concern and research interest to educators, government and parents. This is so because of the great importance of education for national development. Secondary schools in Nigeria have been faced with the issue of using effective teaching methods. Today, the educational sector of Nigeria especially in Enugu State as observed by the researcher is confronted with series of changes and reforms. Numerous strategies for teaching and learning have been developed which correspond to the accommodation of students' need and diverse learning method. One of such strategy involves the use of technology.

Technology is the application of science to solve problem. It is also the purposeful application of information in the design, production, and utilization of goods and services, and in the organization of human activities. The national policy in Education (FRN, 2014) defined technology under technological/vocational Education as, "something which involves the study of technologies and related sciences and the acquisition of practical skills, attitudes and understanding and knowledge relation to occupation in various aspects of economic and social life". Obeta (2018) defined technology as connoting the blending of science and art to produce devices and principles for achieving stated objectives in the course of improving biological, environmental, economic and educational status of men, machines, ideas and management of tools, to solve human problem. Technologies are currently being used in education to assist students to learn more effectively by providing teachers with access to a wide range of new pedagogy. These technologies are also being used to enable teachers to do administrative tasks more efficiently (Hemant, 2018). Rapid developments in technologies in recent years have resulted in significant changes in the way the world operates and communicates. In the secondary school settings, technology may influence students education in the aspect of students' records and students personnel management.

School records are essential need of the school system. Mgbodile (2013) defined school records as documented statement of facts about persons, facilities, proposals and activities in and around the school. School record is any written document where the activities of the school are put down (Chidobi, 2011). Aguba (2009) sees school records as pieces of information kept on relevant events about a school for proper management of school. He further stated that some of the activities within the school environment must be put on records for present and future use. In the discharge of polytechnics functions, many activities are involved. These include admission records, students' personal files, course content, financial management book, academic calendar, timetable, student test scores, students on suspension, list of students to repeat/withdraw, academic regulation book.

Another aspect of students' education technology may influence is students' personnel management. Student personnel management can be described as all the activities of the administrator, teachers and other staff members geared towards making the students better citizens of the society in which they live. Lewis (2010) defined students' personnel have to do with the services that are provided to enhance students' learning process. Student personnel management according to Kalu in Ozioko (2014) are those non-academic duties concerned with students' welfare in a school setting especially in the secondary schools. The head of secondary schools in Nigeria is known as principals.

Principals are the professional leaders of the secondary schools. Principals occupy a central position in the management of secondary education in Nigeria. Adadegbe (2011) observed that the principals occupy a unique position in the overall secondary education system in Nigeria. He is an educational leader in his own right and his influence is very great. However, the drivers of the educational programmes in secondary schools are the teachers.

A teacher can be viewed as one whose profession includes teaching, instructing, imparting knowledge and innovations, and guiding learners to pass through the learning process. Majasan in Ofojebe and Ezugoh (2010) defined a teacher as one who teaches the young ones, builds up, instructs, trains and guides them for healthy growth and stable adult life. Teachers are the most fundamental and crucial resources in education system at any level, this is because the strength of an educational system largely depends upon the quality and quantity of its teachers (Agboola and Offong, 2018).

The process of using technologies in everyday education is very complicated. The opportunities provided by technologies to support the education of students are paramount in today's educational settings. Against the backdrop of the features and benefits of technologies in the education of students, it is hoped that integrating will bring about optimal effects in quality education. This can only be confirmed by the findings of this study.

Statement of the Problem

Secondary education in Nigeria especially in Enugu State has been faced with numerous challenges ranging from low teachers' productivity to low students' performance. For sometimes now in Enugu state, there have been complaints that students' performances in both internal and external examinations are very poor. Some secondary education stakeholders have argued that these poor performances are due to students' engagements in school activities. This engagement has been traced to lack of integrating technology into students' education. Most of the secondary school students in Enugu State do not really get the necessary exposure in order to excel in their classroom activities in terms of students' records and students' personnel management with technology. Technology has now become integral part of the education of students in secondary schools. It provides opportunities for both teachers and students to learn how to operate in an information and technological age. The problem of this study put in question form is, therefore, "what is the extent to which technology influences education of students in secondary schools in Enugu state?

Purpose of the Study

The general purpose of this study was to investigate the influence of technology on the education of students in secondary schools in Enugu State. Specifically, the study sought to examine the extent to which:

1. technology influences the education of students in secondary schools in Enugu State in terms of students' records;
2. technology influences the education of students in secondary schools in Enugu State as regards students' personnel management.

Research Questions

The following research questions guided the study:

1. What is the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records?
2. What is the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management?

Research Hypotheses

The following hypotheses guided the study and were tested at 0.05 level of significance:

H₀₁: There is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records.

H₀₂: There is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management.

Research Method

In this study, the researcher adopted descriptive survey research design. Kothari and Garg (2014) defined descriptive survey research design as those studies which are concerned with describing the existing characteristics with narration of facts of a particular individual, of a group or situation. In the same vein, Nworgu (2015) defined descriptive survey research design as one which a group of people or items is studied by collecting and analyzing data from a few people or items regarded as being representative of the entire group. This design was suitable for this study because it involved the collection of data from some of the participants using questionnaire as the research instrument. The researchers restricted the study among public secondary schools in Enugu Education Zone. The population for the study was 142 respondents which comprised 31 principals and 111 teachers from the 31 secondary schools in Enugu Education zone.

The researchers purposively sampled one Education Zone as well as the teachers' population. The instrument for data collection was a researchers' developed questionnaire titled "Influence of Technology on the Education of Students Questionnaire (ITESQ). It contained 10 items. The instrument was validated by three research experts. Two from the Department of Educational Management and one from Measurement and Evaluation Unit of the Department of Mathematics and Computer Education, all in Faculty of Education, Enugu State University of Science and Technology. The reliability of the instrument was determined

by the use of Cronbach Alpha procedure which yielded 0.80 for cluster 1 and 0.79 for cluster 2 with an overall reliability index of 0.80 which made the instrument reliable and was used for data collection. The items had four response options Very Great Extent (VGE), Great Extent (GE), Low Extent (LE) and Very Low Extent (VLE) with numerical values of 4, 3, 2 and 1 respectively.

The 142 copies of the questionnaire were administered on the respondents by the researchers and two research assistants who were briefed in a one-day interactive session. However, out of the 142 copies of the questionnaire administered on the respondents, the researcher with her assistants retrieved 129 copies (24 from principals and 105 from the teachers) which resulted to a 90.85% returned rate. The research questions were answered using mean and standard deviation, while t-test statistic was used to test the hypotheses at .05 level of significance. The criterion mean was 2.50 which meant that any item with mean value of 2.50 above was interpreted as great extent while any item with a mean score below 2.50 was interpreted as low extent. The benchmark of 2.50 was gotten by summing up the weighted options (4+3+2+1=10) and dividing it by total number of response options (4) as follows; $10/4=2.50$. The decision rule for the hypotheses was that hypothesis was not rejected when the t-calculated value was less than the critical table value, but rejected when the t-calculated value was greater than or equal to the critical table value.

Data Analysis

Research Question 1: What is the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records?

Table 1: Mean ratings of Principals and Teachers on the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records

S/N	ITEMS	Principals 24			Teachers 105		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
	Technology influences students' records to the following extent:						
1.	using database package to store records of students' academic performance.	2.66	0.91	GE	2.64	0.96	GE
2.	cloud computing technology for record of vital information of students.	2.57	0.92	GE	2.55	0.97	GE
3.	Digital Video display (D.N.D) Rom to record students' social activities.	2.55	0.89	GE	2.50	0.93	GE
4.	spread sheet to prepare students' attendance register.	2.51	0.94	GE	2.66	0.90	GE
5.	word processing for storing information on students' activities.	2.63	0.83	GE	2.55	0.95	GE
	Grand Mean	2.58	0.90	GE	2.58	0.94	GE

The data presented on Table 1 show that the respondents' responses were positive on all the items as regards the influence of technology on education of students in secondary schools in terms of students' records. The principals' mean ranged from 2.51 to 2.66, while that of

teachers ranged from 2.50 to 2.66 respectively. They also have grand means of 2.58 and 2.58, while their standard deviations were 0.90 and 0.94 respectively. This is an indication that technology influences the education of students in secondary schools in terms of students' record to a great extent.

Research Question 2: What is the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management?

Table 2: Mean ratings of Principals and Teachers on the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management

ITEMS				Principals 24			Teachers 105		
S/N	Technology influences students' personnel management to the following extent:			$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
6.	students utilize internet for on-line registration.			2.54	0.94	GE	2.58	0.92	GE
7.	students pay school fees on-line through internet services.			2.58	0.89	GE	2.54	0.95	GE
8.	telephone is used by students to communicate with their principals.			2.53	0.94	GE	2.56	0.99	GE
9.	students use telephone widely to communicate and interact with their fellow students.			2.56	0.90	GE	2.61	0.98	GE
10.	hostel is easily accessed by students through internet in the schools.			2.60	0.95	GE	2.56	0.91	GE
Grand Mean				2.56	0.92	GE	2.57	0.95	GE

The data presented on Table 2 show that the respondents' responses were positive on all the items as regards the influence of technology on education of students in secondary schools in terms of students' personnel management. The principals' mean ranged from 2.53 to 2.60, while that of teachers ranged from 2.54 to 2.61 respectively. They also have grand means of 2.56 and 2.57, while their standard deviations were 0.92 and 0.95 respectively. This shows that technology influences the education of students in secondary schools in terms of students' personnel management to a great extent.

Research Hypotheses

Ho: There is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records.

Table 3: t-test on the mean ratings of principals and teachers on the extent to which technology influences the education of students in terms of students' records

Groups	n	Mean	SD	df	t-cal	t-crit	Decision
Principals	24	2.58	0.90				
				127	0.00	±1.96	Not Significant
Teachers	105	2.58	0.94				

Hypothesis 1 tested above on Table 3 shows that the t-calculated value of 0.00 is less than the t-table value of 1.96 which means that the null hypothesis is not significant. This means that there is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records.

Ho₂: There is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management.

Table 4: t-test on the mean ratings of principals and teachers on the extent to which technology influences the education of students in terms of students' personnel management

Groups	n	Mean	SD	df	t-cal	t-crit	Decision
Principals	24	2.56	0.92				
				127	0.05	±1.96	Not Significant
Teachers	105	2.57	0.95				

Hypothesis 2 tested above on Table 4 shows that the t-calculated value of 0.05 is less than the t-table value of 1.96 which means that the null hypothesis is not significant. This shows that there is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management.

Discussion of Findings

The findings of the study revealed that technology influences education of students in secondary schools to a great extent. This is based on the responses of the respondents that database package is used to store records of students' academic performance, cloud computing technology for record of vital information of students. The hypothesis tested revealed that there is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State in terms of students' records.

The finding agree with Nwana (2018), who asserted that technology facilities are the major tools any organization can use in managing their records such as collecting data, typing, filling, copying, processing, storing, retrieving among others. The findings also agree with Frances (2017) who asserted that technology tools enhance record keeping and help to have effective records management. Therefore, it is very important for schools to embrace the inculcation of technology into the records of students.

The findings of the study also revealed that technology influences the education of students in secondary schools in terms of students' personnel management to a great extent. The respondents were of the view that students utilize internet for on-line registration, students pay school fees on-line through internet services, telephone is used by students to communicate with their principals among others. The hypotheses tested revealed that there is no significant difference between the mean ratings of principals and teachers on the extent to which technology influences the education of students in secondary schools in Enugu State as regards students' personnel management.

The findings agree with Yasin (2014) who noted that technology tools or facilities are very important tools that can be use to manage students data and information effectively, Such as collecting, filling, copying, process, analysing, storing and retrieving data.

Conclusion

This study investigated the influence of technology on the education of students in secondary schools in Enugu State. The researcher observed that technology is very important in the schools especially in students' records and students' personnel management. The hypotheses tested did not reveal any significant difference between the principals and teachers. In Nigeria, the use of technology in the school is now a necessity. The linking of technology to education across the world has a crucial impact on the education of secondary school students in Enugu State.

Recommendations

Based on the findings, the following recommendations were proffered:

1. Public secondary school stakeholders should make use of educational technologist to sensitize teachers on how to use technologies in the education of students especially in students' records and students' personnel management.
2. Teachers should be provided with adequate technological resources, technical support and administrative support to encourage them successfully use technology in the education of students.

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