



Utilization of ICT in the Administration of Public Senior Secondary Schools in Rivers State

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Abstract

The study examined the utilization of ICT in the administration of public senior secondary schools in Rivers State. The study adopted the descriptive research design. Three research questions guided the study, while three hypotheses were tested at 0.05 level of significance. The population of the study comprised of 276 public senior secondary schools in Rivers State, while the number of respondent's was 7,418. The sample size of the study was 391 respondents. A stratified random sampling technique was used to draw 12 principals and 379 teachers. The Utilization of Information and Communication Technology Questionnaire (UICQTQ) was used for data collection. Data were collected through the researcher and two research assistants. Means, standard deviation and rank order were used to answer the research questions, while Z-test was used to test the hypotheses at 0.05 level of significance.

Keywords: Utilization, ICT, Administration, Senior Secondary Schools.

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INTRODUCTION

The educational aim is to prepare learners and the school heads for effective life in the society. To achieve this aim, the educational system must be stout and efficient. The world of today is branded by innovatory advances powered by Information and Communication Technology (ICT). The globe is being reduced to a global village through the use of information and communication technology. ICT promotes national development and better relationship with other nations. ICT refers to the electronic and communication devices associated with person-to-person interaction that enables users to employ them for a whole range of academic process. (Cox et al., 2011a). Information and Communication Technologies (ICTs) are indispensable and have been accepted as part of the contemporary world, especially in the industrialized societies to the extent of giving a new phase to the education system in terms of pedagogical approach (Ololube, 2006). The 21st century scene in Education is controlled by technological developments which consequently have given birth to electronic wonders like the e-administration, e-government, and e-learning, among others. These have ushered in a new dimension in this century, known as the information age. Administrators manage the day-to-day activities and provide instructional leadership in an organization. An effective administrator provides the link between organizations various parts and ensures the smooth communication and transmission of information from one part to the other.

Therefore, to achieve effective administration in a school, the following subsystems must operate on a set of rules or procedures that the administrator follows when completing a certain kind of internal activities. They include: 1. Planning Subsystem, 2. Knowledge Management Subsystem, 3. Document Processing Subsystem, 4. Communication Subsystem, 5. Reporting Subsystem, and 6. Decision making Subsystem. An administrator is officially designated as the leader of the school. The achievement of the goals of education at the secondary school level is dependent, to a large extent, on the administrator who is the chief executive officer capable of applying the appropriate skills. The school is an open system that is in constant interaction with the environment. It receives inputs from external environment in the form of human and material resources, processes them and empties same into the environment.

Furthermore, Nwosu in Atsu (2014) noted that the use of ICT facilities for record-keeping assisted the school head to meet the 21st century change in school management in the areas of curriculum and instruction, school community relationship and school business operations. But with the use of the computer, which could store up thousands of files in it. It only requires the utilization of ICT resources to boost administrative effectiveness. To achieve a broad range and successful implementation of information and communication technology in teaching and learning programme needs better knowledge and understanding of information and communication technologies, how it functions and how it can be implemented to enhance the education and the needs of students and their future employers. It is not uncommon to find that institutions or establishments in Nigeria still keep records in files and keep them in filing cabinets where they accumulate dust. Many of these files are often eaten by rodents and pests which render them irretrievable. A great deal of routine administrative work in educational institutions is still done manually. School officials still go through the analogue exercise of registering students manually, maintaining records of students' performance, keeping inventory list of supplies, paying bills. The huge time spent on these manual exercises can be drastically reduced with the availability and utilization of ICT in the school systems to enhance effective administration.

The field of education has been positively affected with the introduction of ICT into the school curriculum and the use of ICT in administrative proceedings. ICTs have the potential to accelerate, enrich and deepen, to motivate and engage students to help relate school experience to work, practice and create financial viability for tomorrow's workers, as well as support teaching and schools change (Yusuf, 2005). ICT facilities influence and affect people's" private and corporate work life in one way or the other. These ICT facilities are all encompassing in areas like technology, socialization, politics, economics and education, for global transformation. Therefore, it becomes pertinent for administrators who serve as key implementers of the nation's educational policy, to be well-informed and adequately equipped with ICT facilities in order to enhance their performance in this age of information explosion and technological advancement.

Administrators, students can enhance classroom learning from an array of resources communicating through internet. The computer which provides virtually instantaneous responses from student input has extensive capacity to store and manipulate information and is unmatched in its ability to serve many students and administrators effectively. The different tasks areas of administration in public senior secondary schools include student personnel services, staff personnel services, instructional services, academic planning, financial management and records management. Student personnel services cover the management of student records such as admissions, registrations, and school fees and students' scores. In managing student records, data base of students' particulars ought to be kept to facilitate the easy storage and retrieval of student data. It has been observed that some students graduate without paying the required fees while some are made to pay twice because of improper record keeping. In managing staff personnel services electronically, database can be used to keep staff records such as recruitments, promotions, disciplinary matters, work load, qualification and salary matters. These records are then used to determine the workers output, and performance indicators such as labor turn overs and lateness to work. It has however been observed that in many public secondary schools in Rivers State, ICT tools like computer, internets and other telecommunication technologies that can aid administrative processes are hardly utilized. It is against this background that this Study intends to examine the utilization of information and communication technology (ICT) in the administration of Public Senior Secondary Schools in Rivers State.

Aim and Objectives of the Study

The main purpose of the study was to determine the utilization of information and communication technology (ICT) in the administration of Public Senior Secondary Schools in Rivers State, specifically the study sought to ascertain the following:

- Examine the areas of utilization of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State.
- Examine the factors that inhibit the administrator's use of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State
- Examine the strategies that mitigate the constraints to effective use of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State.

Research Questions

The following research questions were posed to guide the study:

- What are the areas of utilization of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State?
- What are the constraints facing the use of ICT in the administration of Public Senior Secondary Schools in Rivers State?
- What are the strategies that mitigate the constraints of utilization of ICT in the administration of Public Senior Secondary Schools in Rivers State?

Hypotheses

The following hypotheses were formulated to be tested at 0.05 level of significance:

- **HO1:** There is no significant difference in the mean ratings of teachers and principals of public secondary schools in Rivers State on the area of utilization of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State.
- **HO2:** There is no significant difference in the mean ratings of teachers and principals of public senior secondary schools on the constraints facing the use of ICT in the administration of Public Senior Secondary Schools in Rivers State.
- **HO3:** There is no significant difference in the mean ratings of teachers and principals of public senior secondary schools on the strategies that mitigate the constraints of utilization of ICT in the administration of Public Senior Secondary Schools in Rivers State.

METHODOLOGY

The study adopted the descriptive research design. The population of this study was 276 public senior secondary schools in Rivers State while the total number of respondent's was 7,418. This comprised all the 7,142 teachers and the 286 principals in Public Senior Secondary Schools in Rivers State. The sample size of the study was 391 respondents. A stratified random sampling technique was used to draw 12 principals (17 males and 9 females) and 379 teachers (248 females and 131 males). The Utilization of Information and Communication Technology Questionnaire. (UICQTQ). Was used for data collection. This instrument was face validated by experts and the overall internal consistency reliability co-efficient index obtained through Cronbach Alpha method was 0.73. Data were collected through direct delivery method by the researcher and two research assistants. Means, standard deviation and rank order were used to answer the three research questions while Z-test was used to test the hypotheses at 0.05 level of significance.

RESULTS

The results were presented in line with research questions and null hypotheses that guided the study as showed in the table below;

Research Question one: What are the areas of utilization of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State?

Table 1: Mean ratings, standard deviation and rank order of Principals and Teachers on the areas of utilization of ICT facilities in the administration of Public Senior Secondary Schools in Rivers State

Areas of utilization of ICT facilities.		<u>TEACHERS (n = 379)</u>				<u>PRINCIPALS (n = 12)</u>			
		\bar{X}	<i>S. D</i>	Rank Order	Remark	\bar{X}	<i>S. D</i>	Rank Order	Remark
1.	Staff salary	1.81	0.98	9 th	Disagreed	1.92	0.95	9 th	Disagreed
2.	Staff records	2.44	1.04	4 th	Disagreed	2.08	0.95	8 th	Disagreed
3.	Staff promotion	2.86	1.12	2 nd	Agreed	2.42	1.26	3 rd	Disagreed
4.	Staff disciplinary matters	2.43	1.06	5 th	Disagreed	2.25	1.01	5 th	Disagreed
5.	Admission Process	2.06	0.91	6 th	Disagreed	2.25	1.09	5 th	Disagreed
6.	Students results	2.06	1.1	6 th	Disagreed	2.42	1.11	3 rd	Disagreed
7.	Instructional Management	2.81	1.1	3 rd	Agreed	2.58	1.19	2 nd	Agreed
8.	Preparing of school Time Table and Examination time table	2.87	1.08	1 st	Agreed	2.83	1.14	1 st	Agreed
9.	Duty Roster	2.1	1.06	8 th	Disagreed	2.25	1.16	5 th	Disagreed
	Average Mean/Standard Deviation	2.38	1.05		Disagreed	2.33	1.1		Disagreed

Source: Survey Data 2020:

Mean \bar{X} *S. D*: Standard Deviation

Data on Table 1 showed the mean ratings, standard deviation and rank order of Principals and Teachers in Public Senior Secondary Schools in Rivers State on the areas of utilization of ICT facilities in the administration of public senior secondary schools in Rivers state. The Table showed that teachers agreed that items 3, 7 and 8 with the mean score 2.86, 2.82, and 2.87 respectively which are above the criterion mean of 2.50, but disagreed on items 1, 2, 4, 5, 6, and 9 with the mean score 1.81, 2.44, 2.43, 2.06, 2.06, and 2.1 respectively below the criterion mean of 2.50. While Principals agreed that item 7, and 8 with the mean score 2.58 and 2.83 respectively, but disagreed on items 1, 2, 3, 4, 5, 6 and 9 with the mean score 1.92, 2.08, 2.42, 2.25, 2.25, 2.42, which is below the criterion mean of 2.50.

Again, the overall rated mean score for teachers showed ICT is mostly utilized in Preparing of school Time Table and Examination time table with the mean score of 2.87 above the criterion mean of 2.50, while ICT is less utilized in staff salary with mean score of 1.81 below the criterion mean of 2.50. The overall rated mean score for principals showed that ICT is mostly utilized in Preparing of school Time Table and Examination time table with mean score of 2.83 above the criterion mean of 2.50 while it is lest utilized in the area of staff salary with mean score of 1.92 below the criterion mean of 2.50. The average mean score for teachers was 2.38 which means that majority of the teachers were of the opinion that ICT facilities are lest

utilized in the administration of Public Secondary Schools in Rivers State in the administration of public senior secondary schools in Rivers State. The average mean of Principals was 2.33 which indicated that ICT facilities are not utilized in different areas in public senior secondary schools in Rivers State.

Research Question Two

What are the constraints facing the use of ICT in the administration of Public Senior Secondary Schools in Rivers State?

Table 2: Mean ratings, standard deviation and rank order of Principals and Teachers on the constraints facing the effective use of ICT in the administration of Public Senior Secondary

S/N	Constraints Facing Effective Use of ICT	<u>TEACHERS (n = 379)</u>				<u>PRINCIPALS (n = 12)</u>			
		\bar{X}	S. D	Rank Order	Remark	\bar{X}	S. D	Rank Order	Remark
10.	Irregular Power Supply	3.21	0.98	1 st	Agreed	3.17	0.99	1 st	Agreed
11.	Inappropriate maintenance of ICT facilities and services	3.09	1.03	3 rd	Agreed	2.67	1.18	4 th	Agreed
12.	Lack of qualified personnel to manage ICT software and hardware in these schools	2.86	1.12	6 th	Agreed	2.83	0.9	2 nd	Agreed
13.	Poor Government policies to coordinate use of ICT in teaching and administration	3.03	1.02	5 th	Agreed	2.58	1.26	6 th	Agreed
14.	Inadequate funding to set ICT facilities	3.17	0.93	2 nd	Agreed	2.25	1.23	9 th	Disagreed
15.	Insufficient ICT support staff	3.06	0.97	4 th	Agreed	2.42	1.11	8 th	Disagreed
16.	lack of internet connectivity	2.81	1.1	7 th	Agreed	2.58	1.19	6 th	Agreed
17.	Lack of training/retraining of academic and non-academic administrators in ICT.	2.16	1.04	8 th	Disagree d	2.83	1.14	2 nd	Agreed
18.	Fatigue and stress associated with ICT use	2.1	1.06	9 th	Disagree	2.67	1.25	4 th	Agreed
	Average mean/standard deviation	2.83	1.03		Agreed	2.67	1.14		Agreed

Data on Table 2 showed the mean ratings, standard deviation and Rank Order of principals and teachers in public secondary schools in Rivers State on the constraints facing the effective use of ICT in the Effective administration of public senior secondary schools in Rivers State. The Table showed that teachers agreed to items 10, 11, 12, 13, 14, 15, and 16 with the mean score 3.21, 3.09, 2.86, 3.03, 3.17, 3.06, and 2.81 respectively above the criteria mean of 2.50 but disagreed on items 17 and 18 with mean score 2.16, and 2.1 respectively below the criterion mean of 2.50. Again, the overall rated mean score for teachers showed that irregular power supply is the major constraint facing the effective use of ICT in the administration of public senior secondary schools in Rivers State, with the mean score of 3.21 above the criterion mean of 2.50, while Fatigue and stress associated with ICT use is the least problem associated facing the effective use of ICT in the effective administration of public senior secondary schools in Rivers

State with the mean score of 2.10 below the criterion mean of 2.50. The overall rated mean score for Principals also showed that irregular power supply is the major constraint facing the effective use of ICT in the administration of public senior secondary schools in Rivers State with the mean score of 3.17 above the criterion mean of 2.50, while Inadequate funding to set ICT facilities was the best strategy for constraints facing the effective use of ICT with the mean score of 2.25 below the criterion mean of 2.50. The average mean score for teachers was 2.83 which means that majority of the teachers were of the opinion that the items are constraints facing the effective use of ICT in the effective administration of public senior secondary schools in Rivers State. While the average mean of principals was 2.67 which means that majority of the principals were of the opinion that all the items are constraints facing the effective use of ICT in the administration of Public Senior Secondary Schools in Rivers State.

Research Question three

What are the strategies that mitigate the constraints of utilization of ICT in the administration of Public Senior Secondary Schools in Rivers State?

Table 4.3: Mean ratings, standard deviation and rank order of Principals and Teachers on the strategies to mitigate the constraints of utilization of ICT in the administration of Public Senior Secondary Schools in Rivers State.

N	Strategies to Mitigate the Constraints of Utilization of ICT	<u>TEACHERS (n = 379)</u>				<u>PRINCIPALS (n = 12)</u>			
		\bar{X}	S. D	Rank Order	Remark	\bar{X}	S. D	Rank Order	Remark
19.	Conducive learning environment	2.95	0.91	2 nd	Agreed	2.92	0.95	1 st	Agreed
20.	Training of teachers and school administrators on the use of ICT	2.9	0.93	4 th	Agreed	2.58	1.11	5 th	Agreed
21.	Improved power supply	2.89	1.14	5 th	Agreed	2.75	1.09	3 rd	Agreed
22.	Proper funding as regards providing ICT resources	2.95	0.98	2 nd	Agreed	2.92	1.11	1 st	Agreed
23.	The use of qualified personnel in managing ICT software	3.09	0.95	1 st	Agreed	2.25	1.01	7 th	Disagreed
24.	Regular maintenance culture of ICT facilities	2.03	1.08	6 th	Disagreed	2.58	1.11	5 th	Agreed
25.	Achievable governmental policies in ICT use	1.98	1.04	7 th	Disagreed	2.67	1.25	4 th	Agreed
	Average mean/standard deviation	2.68	1.01		Agreed	2.67	1.09		Agreed

Data on Table 3 showed the mean ratings, standard deviation and Rank Order of principals and teachers in public secondary schools in Rivers State on the strategies to mitigate the constraints of utilization of ICT in the administration of public senior secondary school in Rivers State. The Table showed that teachers agreed to items 19, 20, 21, 22, and 23, with the mean score of 2.95, 2.9, 2.89, 2.95, and 3.09 respectively which is above the criterion mean of 2.50 but disagreed on item 24 and 25, with the mean score of 2.03 and 1.98 respectively, while Principals agreed on item 19, 20, 21, 22, 24 and 35 with the mean score of 2.92, 2.52, 2.75, 2.92, 2.58, 2.67, and 2.67

respectively which is above the criterion mean of 2.50. Again, the overall rated mean score for teachers showed the use of qualified personnel in managing ICT software is a strategy to mitigate the constraints of the use of ICT for effective administration in public senior secondary schools with mean score of 2.68 above the criterion mean of 2.50, while achievable governmental policies in ICT use was the best strategy for mitigating the constraints of the use of ICT for effective administration with the mean score of 1.98 below the criterion mean of 2.50. The overall rated mean score for Principals also showed that Conducive learning environment is a strategy to mitigate the constraints of the use of ICT for effective administration in Public Senior Secondary Schools with mean score of 2.92 above the criterion mean of 2.50 while, the use of qualified personnel in managing ICT software was the best strategy for mitigating for the constraints of the use of ICT for effective administration with the mean score of 2.25 below the criterion mean of 2.50. The average mean score for teachers was 2.68 which means that majority of the teachers were of the opinion that the items are strategy for mitigating the constraints of the use of ICT for effective administration of public senior secondary schools in Rivers State. While the average mean of principals was 2.67 which means that majority of the Principals were of the opinion that the items are strategy for mitigating the constraints of the use of ICT in the administration of public senior secondary schools in Rivers State.

TEST OF HYPOTHESES

H₀₁: There is no significant difference in the mean rating of Teachers and Principals of public secondary schools in Rivers State on the area of utilization of ICT facilities in the administration of public senior secondary schools in Rivers State

Groups	N	\bar{x}	S.D	Df	z-cal.	z-crit.	Decision
Teachers	379	2.38	1.1	389	0.16	± 1.96	NOT SIGNIFICANT
Principals	12	2.33	1.1				
N=	391						

Level of significance = 0.05 Source: Survey Data 2020: Mean \bar{X} S.D: Standard Deviation

Data on Table 4 showed summary of subjects mean standard deviation and z-test of difference between the mean ratings of Teachers and Principals on the area of utilization of ICT facilities in the administration of public senior secondary schools in Rivers State. It showed that teachers have mean and standard deviation scores of 2.38 and 1.1 respectively while Principals have mean and standard deviation scores of 2.33 and 1.1 respectively the calculated z-value, used in testing the hypothesis stood at 0.16, while the z-critical value stood at ± 1.96 using 389 degrees of freedom. At 0.05 level of significance, the calculated z-test value of 0.16 is less than z-critical value of ± 1.96 , hence the null hypothesis is accepted. Therefore, there is no significant difference in the mean rating of teachers and Principals on the area of utilization of ICT facilities in the administration of public senior secondary schools in Rivers State.

HO₂: There is no significant difference in the mean ratings of teachers and principals of public senior secondary schools on the constraints of ICT utilization in the administration of public senior secondary schools in Rivers State

Groups	N	\bar{x}	SD	Df	z-cal.	z-crit.	Decision
Teachers	379	2.83	1	389	0.5	± 1.96	NOT SIGNIFICANT
Principals	12	2.67	1.14				
N=	391						

Data on Table 5 show summary of subjects mean standard deviation and z-test of difference between the mean ratings of Teachers and Principals on the constraints of ICT utilization in the administration of public senior secondary schools in Rivers State. It showed that teachers have mean and standard deviation scores of 2.83 and 1 respectively, while Principals have mean and standard deviation scores of 2.67 and 1.4 respectively the calculated z-value, used in testing the hypothesis stood at 0.5, while the z-critical value stood at ± 1.96 using 389 degrees of freedom. At 0.05 level of significance, the calculated z-test value of 0.5 is less than z-critical value of ± 1.96 , hence the null hypothesis is accepted. Therefore, there is no significant difference in the mean ratings of teachers and Principals on the constraints of ICT utilization in the administration of public Senior Secondary Schools in Rivers State.

HO₃: There is no significant difference in the mean ratings of teachers and principals of public senior secondary schools on the strategies that mitigate the constraints of ICT usage in the administration of Public Senior Secondary Schools in Rivers State

Groups	N	\bar{x}	S.D	Df	z-cal.	z-crit.	Decision
Teachers	379	2.68	1	389	0.05	± 1.96	NOT SIGNIFICANT
Principals	12	2.67	1.09				
N=	391						

Level of significance = 0.05 Source: Survey Data 2020: Mean \bar{X} S.D: Standard Deviation

Data on Table 6 show summary of subjects mean standard deviation and z-test of difference between the mean ratings of Teachers and Principals on the strategies to mitigate the constraints of ICT usage in the administration of public senior secondary schools in Rivers State. It showed that teachers have mean and standard deviation scores of 2.68 and 1 respectively while Principals have mean and standard deviation scores of 2.67 and 1.09 respectively the calculated z-value, used in testing the hypothesis stood at 0.05, while the z-critical value stood at ± 1.96 using 389 degrees of freedom. At 0.05 level of significance, the calculated z-test value of 0.05 is less than z-critical value of ± 1.96 , hence the null hypothesis is accepted; therefore, there is no significant difference in the mean ratings of teachers and Principals on the strategies to mitigate the constraints of ICT usage in the administration of public Senior Secondary Schools in Rivers State.

DISCUSSION OF FINDINGS

Areas of Utilization of ICT Facilities in the Administration of Public Senior Secondary Schools in Rivers State

Research question 1 sought to find out the areas of utilization of ICT facilities in the administration of public Senior Secondary Schools in Rivers State. The result of the findings reveals that ICT facilities were less utilized in the area of Staff salary, Staff records, Admission Process, and Staff disciplinary matters. This finding agrees with Walson (2018), that most specific uses of ICT by teachers are in the areas of checking email, accessing research materials and news update. This finding is also in line with Adegbemile (2013) that ICT facilities are less utilized in public schools. The findings of the hypothesis in this regard showed that there was no significant difference in the mean ratings of teachers and Principals on the area of utilization of ICT facilities in the administration of public senior secondary schools in Rivers State. This is in line with the findings Adegemile (2013) that there was no significant difference in the availability and Utilization of ICT facilities in the management of secondary schools in Kaduna State. Again, Woreta, Kebede and Zegeye (2013) carried out a study on knowledge and utilization of ICT among health science students at the University of Gondar, North western Ethiopia. And find out that there was no significant difference in the utilization of ICT facilities among students in north western Ethiopia.

Constraints Facing the Effective Use of ICT in the Administration of Public Senior Secondary Schools in Rivers State

Research question 2 sought to find out the constraints facing the effective use of ICT in the administration of public senior secondary schools in Rivers State. The findings reveal that irregular power supply, Inappropriate maintenance of ICT facilities and services, Lack of qualified personnel to manage ICT software and hardware in the schools, Poor Government policies to coordinate use of ICT in teaching and administration, Inadequate funding to set ICT facilities, Insufficient ICT support staff, and Fatigue and stress associated with the use of ICT are constraints facing the effective use of ICT in the administration of public senior secondary schools in Rivers state. This agrees with Achimugu et al. (2010) findings on factors militating against the use of ICT in the administration of Public senior secondary schools. Their study revealed that institution in Nigeria lack adequate ICT infrastructure, to effectively use the opportunities offered by the cyberspace. There are lack of ICT support staff and other specialized software agent to support the running of our schools. This finding is in line with Gbadamosi (2006) that the challenges associated with the use of ICT in the effective administration of schools range from being curriculum related to being infrastructure related to capacity building related and finance related.

Also, Ibadin (2001) argued that these challenges associated with the use of ICT in the effective administration of schools can cause a loss of purpose, loss of productivity, loss of quality and absence of the attainment of a common goal within the settings of a school which can bring into disrepute the essence of teaching-learning process in schools. However, some scholars are of the opinion that challenges associated with ICT can help in quality decision making, concerning the use of ICT in administration yet, these challenges can be detrimental, especially, when not addressed after a long time. In this vein, James (2012) opined that once an ICT

associated challenge surfaces and is allowed to linger for a long time, it cuts across and disrupts the use of all components of ICT in teaching and administration leading to a wide range of behaviour among teachers such as avoiding, dislike, distrust or prejudice among teachers and students, in line with the use of ICT in teaching thereby hindering school general performance. The findings of the hypothesis in this regard showed that there was no significant difference in the mean ratings of teachers and principals on the constraints of ICT utilization in the administration of public senior secondary schools in Rivers State.

Strategies to Mitigate the Constraints of Utilization of ICT in the Administration of Public Senior Secondary Schools in Rivers State

Research question 3 sought to determine the strategies to mitigate the constraints of utilization of ICT in the administration of public Senior Secondary Schools in Rivers State. A close observation of the analysis revealed that all the respondents were close in their response about the Strategies to mitigate the constraints of utilization of ICT in effective administration of public senior secondary school in Rivers State. Conducive learning environment, Training of teachers and school administrators on the use of ICT, Improved power supply proper funding as regards providing ICT resources, and the use of qualified personnel in managing ICT software, are strategies to mitigate the constraints of utilization of ICT in effective administration of public senior secondary schools in Rivers State. These strategies are in line with EJiofor and Osinem (2010) and Egboka (2012) who also suggested that teachers, students and Principals must have sufficient access to digital technologies and internet in their classrooms; teachers must have the knowledge and skills to use the new digital tools. This study is also in line with Emeka (2011) that improvement in power supply will help to alleviate the problem of utilization of ICT facilities in public institutions. The findings agree with Sundarajan (2005), Evoh (2007), and Nwana (2008a, 2008b, 2009a, 2009b) that teachers should have adequate training for computer education. Also, that necessary Facilities and ICT tools should be provided for effective curriculum implementation in secondary. The findings of the hypothesis in this regard showed that there was no significant difference in the mean ratings of teachers and Principals on the strategies to mitigate the constraints of ICT usage in the administration of public senior secondary schools in Rivers State.

CONCLUSION

On account of the findings, it was recommended that there is no doubt that utilization of ICT in the administration of public Senior Secondary Schools in Rivers State will lead to academic proficiency within the educational system. Unfortunately Public Senior Secondary Schools in Rivers State do not have ICT facilities and low rate of utilization of ICT facilities to meet 21st century change in public senior secondary schools in Rivers state because of militating factors which include irregular power supply, inappropriate maintenance of ICT facilities and services, lack of qualified personnel to manage ICT software and hardware in the schools, poor government policies to coordinate use of ICT in teaching and administration, inadequate funding to set ICT facilities, insufficient ICT support staff, and fatigue and stress associated with the use of ICT. The findings revealed that improved power supply, proper funding as regards providing ICT resources, and the use of qualified personnel in managing ICT software, are strategies to mitigate the constraints of utilization of ICT in the administration of public Senior Secondary Schools in Rivers State.

Educational Implications

The findings of the study have contributed to knowledge creation in educational administration. The results of the study have provided empirical evidence of low utilization of ICT facilities in the effective administration of Public Senior Secondary Schools in Rivers State. Again, the findings showed that teachers and Principals in Public Senior Secondary Schools in Rivers State are not ICT compliant in the utilization of ICT facilities. Consequently, staff salary, students result are still done in old fashioned manual way giving room for various anomalies such as falsification of results, examination malpractices and improper academic productivity. Again, this study have been able to awoken the consciousness of the State Government to Provide necessary ICT facilities to both the rural and urban area that was used for this study and to give adequate training and retraining to teachers and principals in Public Senior Secondary schools In the administration of public Senior Secondary Schools in Rivers State.

Recommendations

Based on the findings of this study which have been revealed, the following recommendations were made:

- Government should provide conducive learning environment for the use of ICT in Public Schools in Rivers State.
- There should be continuous training and retraining of staff/Administrators to make them capable to utilize the available ICT facilities.
- Government should provide enabling environment such as stable power supply for ICT facilities to function properly
- Government should provide fund for the running cost of ICT maintenance.

REFERENCES

- Achimugu, P., Oluwagbemi, O., & Oluwaranti, A. (2010). An evaluation of the impact of ICT diffusion in Nigeria's Higher Educational Institutions. *Journal of Information Technology, Impact*, 10(1), 25-34. <http://www.jitl.com/V10/jiti.V10n1.025-034.pdf>
- Adegbemile, S. (2012). Information and Communication Technology (ICT) Availability and Utilization in Management of Secondary Schools in Kaduna State, Nigeria. *Journal of Education and Social Research*. 2(7)1, 92-107.
- Astu, A. A. (2014). *Provision, utilization of Information and Communication Technology (ICT) resources and secondary school administrator's effectiveness in Cross River State, Nigeria*. Unpublished. PhD Dissertation, Faculty of Education, University of Calabar, Calabar, Nigeria. Universioty Press.
- Cox, M., Preston, C., & Cox, K. (1999). *What factors support or prevent teachers from using ICT in their classrooms?* British Educational Research Association Annual Conference, University Press. <http://www.leeds.ac.uk/educol/documents/00001304.html>.
- Egboka, P. N. (2007). ICT in the management of technology, technical and vocational education in tertiary institutions. In J.B. Babalola, G.O. Akpa & A.O. Ayeni (Eds.). *Managing technical and vocational education in the era of globalization* (Pp 73). NAEAP.

- Engorere-Febabor, A. (2005). *Assessment of the use of information technology as a vehicle for qualitative education in secondary schools in Yenegoa of Bayelsa State*. Unpublished manuscript. University Press.
- Gbadamosi, L. (2006). *Challenges of e-teaching profession and ways forward: An educational planner's view*. A paper presented at ICT workshop organized by teachers' registration council of Nigeria (TRCN) at Adeniran College of Education, Ijanikin, Lagos 2nd – 8th.
- Gholami, R. (2006). *Essays on Information and Communication Technology: Investment, Usage and Economic Impacts*. PHD thesis Department of Educational Management, University Press.
- Gregory, N. (2005). *Use of internet as a resource material among teachers in public secondary schools in Port Harcourt*. Unpublished manuscript, University Press.
- H. I. Yalin, S. Karadeniz and S. Sahin. (2007). Barriers to information and communication Technologies integration into elementary schools in Turkey. *Journal of Applied Sciences*.
- Hilbert, M. & Lopez, P. (2011). The world's technological Capacity to store, communicate, and compute information. *Science Journal*, 2(3), 71-80.
- Hoerup, S. L. (2001). *Diffusion of an innovation: computer technology integration and the role of collaboration*. Doctoral dissertation, Virginia Polytechnic Institute and State University. ProQuest Digital Dissertations. University Press.
- Hooker, M. (2009). *The use of ICT in teacher professional development*. University Press.
- Hornby A. S. (2004). *Oxford Advanced Learners Dictionary*. Oxford Press
- Ibadin, V. O. (2001). Computer in education planning and administration. In N.A. Nwangwu, E. T. Ehiametalor, M.A. Ogunu & M. Nwadiani (Eds.). *Current issues in educational management in Nigeria (pp 57)*. Benin City: NAEAP Publication.
- James, A. U. (2012). *The place of information and communication technology in the twenty first century*. Unpublished M.Ed. Thesis. University Press.
- Jegede, N. P. (2004). *Using Information and Communication Technology to leverage learning delivery and return in rural and urban areas*. A Paper Presented at e-learning Capacity Building Summit Organized by the National Commission for Colleges of Education. November 23-25th.
- Jegede, P. O., & Owolabi, A. J. (2008). Computer education in Nigeria secondary schools: Gaps between policy and practice. *Middle School Technology Journal*, 6(2),1-11.
- Nwosu, A. (2009). Effects of Computer-Assisted Instruction (CAI) with drill and practice on academic achievement of students in physics. *Nig. J. Science and Science Edu.*, 8(2), 72-86.
- Ololube N. P. (2006). "Teachers instructional material utilization competencies in secondary schools in Sub-Saharan Africa: Professional and non-professional teachers' perspective". In Conference Proceedings of the 6th International Educational Technology Conference EMU, 19-21 April 2006 North Cyprus.
- Ololube, N. P. (2006). Appraising the relationship between ICT usage and integration and the standard of teacher education programmes in a developing economy. *International Journal of Educational Development using ICT*, 2(3), 185-199.
- Woreta S. A., Kebede Y., & Zebeye, D. T. (2013). Knowledge and utilization of ICT among health science students at the University of Gondar, North Western Ethiopia. <http://www.biomedcentral.com/1472-6947/13/31>.

Yusuf, M. O. (2005). An investigation into teachers self-efficacy in implementing computer education in Nigerian secondary schools. A *Middle School Computer Technologies Journal* 8(2), 58-70.

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