INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS NEEDED BY PRINCIPALS FOR EFFECTIVE MANAGEMENT OF SECONDARY SCHOOLS IN ENUGU STATE

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Abstract: *The study examined the Information and Communication Technology (ICT) skills needed by principals for effective management of secondary schools in Enugu State. The researcher adopted descriptive research design for the study. The study was guided by two research questions and two hypotheses. The study was conducted in the thirty one (31) public secondary schools in Enugu Education Zone of Enugu State. The population for the study comprised all the 31 principals and the 542 teachers. There was no sampling because the population was manageable. Questionnaire that contained 12 items was used as an instrument for data collection. Research experts in Faculty of Education, Enugu State University of Science and Technology validated the instrument. The reliability of the instrument was determined by the use of Cronbach Alpha method which yielded 0.80 for cluster 1 and 0.76 for cluster 2 with an overall reliability index of 0.79 which made the instrument reliable. A 4 point response scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used by the respondents. Two research assistants who were properly briefed assisted the researcher during the data collection process. The research assistants were guided on the method of administering the instrument as well as the responding to pertinent questions. The researcher made used of mean and standard deviation to analyse the data as regards the research questions and t-test statistics to test the hypotheses. The findings of the study revealed that data processing and internet usage are some of the ICT skills needed by the principals for effective management of secondary schools in Enugu State. Based on the findings, the following recommendations were proffered: The principals should be given adequate training on the use of information and communication technology tools in order to improve their professional development opportunities; and the government should provide all the necessary internet facilities in the schools for easy accessibility by the principals as well as other interested staff.*

Rev. Fr. Dr. Onubuleze Franklin Kelechi

Introduction

There has been increasing interest in introducing innovations such as Information and Communication Technology (ICT) into the effective management of educational institutions. Blurton (2010) stated that ICT is a diverse set of technological tools and resources used to communicate, create, disseminate, store, retrieve and manage information. ICT is the most powerful force which is shaping the 21st century (Ayo, 2011). Nworgu (2008) stated that ICT refers to a whole range of facilities or technologies involved in information processing and electronic communication to be handled with skills and expertise, for effective achievement and realization of its potentials in education.

ICT has reduced the world into a global village and as a result, it is repositioning the social, economic, political and academic outlook of man (Chinwe, 2015). In the view of Valasidou (2008), ICT is an innovative instrumental tool that enables the educators to modify the teaching and learning processes in order to increase students' interest. Brown (2009) explained that ICT is considered very crucial for the achievement of various educational objectives in terms of expanding the citizenry access to education at all levels and improving the quality of teaching and learning process. Okereke (2008) noted that, application of ICT to the education institutions makes the management activities more effective and productive. In this regard ICT is viewed as innovations that enable education managers like the principals to effectively manage the secondary schools.

Secondary school is the bridge between the primary and tertiary levels of education in Nigeria. Secondary school is the school for young people between the ages of 11, 16 and 18. National Policy on Education (FRN, 2013) defined secondary education as the education children received after primary education and before the tertiary stage. Secondary schools are divided into junior and senior sections. Oshunniyi (2011) posited that secondary school is the formal education given to children and adolescence which bridges the gap between the primary and tertiary education. Ige (2011) posited that secondary school is critical to the education of a child, being the bridge between primary and higher institutions. Ige further posited that, the head of every public secondary school is known as a principal.

A principal is a manager of school who is accountable for all that happens in the school. Principals are the professional leaders of the secondary schools. According to Ade (2007), a principal is a governing or presiding officer of a school. The principals' main duty is the effective management of secondary schools they head.

Ochai & Ebirim (2011) defined management as a process designed to ensure co-operation, participation, intervention and involvement in effective achievements of goals. According to Oboegbulem & Onwurah (2011) management is the effective organization of human and material resources in a particular system for the achievement of defined objectives. For the principals to effectively manage their secondary schools in this 21st century which is known as technology age, they need ICT skills.

Skill is a person's ability in performing a given task well as a result of training and practice. Skill as viewed by Soanes (2011) is the ability to do something well especially, as a result of long practice. Obi (2015), defined skill as manual dexterity acquired through repetitive performance of operations. Osinem & Nwaoji (2015) stated that, skill is the proficiency displayed by someone in the performance of a given task. ICT Skill is the ability needed by principals for effective management of secondary schools Enugu State. The ICT skills to be focused in this study are data processing and internet usage skills.

Rev. Fr. Dr. Onubuleze Franklin Kelechi

Data processing skill is the carrying out of operations on data, especially by a computer, to retrieve, transform, or classify information. Data processing deals with the analysis and organization of data by the repeated use of one or more computer programmes (Kogge, 2009). Data processing is used extensively in school management to process data educationally by the principals and other education administrators. Another ICT skill needed by principals for effective management of secondary schools is the internet usage skills.

Internet is a global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols. The internet is a computer-based global information system (Comer, 2009). It is composed of many interconnected computer networks. Each network may link tens, hundreds, or even thousands of computers, enabling them to share information. The Internet has made it possible for people all over the world to communicate with one another effectively, inexpensively and to have free access to useful data.

The Internet is user-friendly and it makes the activities of the education managers easier. A principal/teacher can use YouTube channels to engage the staff/students in order to achieve an easy and effective school management. However, based on the above assertions, the researcher ascertained the ICT skills needed by principals for effective management of secondary schools in Enugu State.

Statement of the Problem
The importance of education in the development of any nation cannot be over-emphasized. Education attracts a huge expenditure of the government worldwide. This, therefore, calls for effective management of educational institutions 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. The secondary schools in Enugu State are not an exception. The major concern is the fact that, principals who are leaders of secondary schools are not getting adequate ICT skills that are in line with the needs of the present era. In other words, the trend in developed nations today is the incorporation of information and communication technologies in teaching, learning and effective management. The problem at stake is that despite the awareness on the relevance of the ICT skills needed, most principals in the secondary schools are yet to possess them. In line with this, when put the problem in a question form: What are the ICT skills needed by principals for effective management of secondary schools in Enugu State?

Purpose of the Study
The purpose of the study was to ascertain the ICT skills needed by principals for effective management of secondary schools in Enugu State. The study specifically intended to:
1. examine the ICT skills needed by principals in terms of data processing for effective management of secondary schools in Enugu State;
2. investigate the ICT skills needed by principals in terms of internet usage for effective management of secondary schools in Enugu State.

Research Questions
The following research questions guided the study:
1. What are the ICT skills needed by principals in terms of data processing for effective management of secondary schools in Enugu State?
2. What are the ICT skills needed by principals in terms of internet usage for effective management of secondary schools in Enugu State?

Rev. Fr. Dr. Onubuleze Franklin Kelechi

Research Hypotheses

The following hypotheses guided the study:

HO₁: There is no significant difference between the mean scores of principals and teachers on the ICT skills needed by principals in terms of data processing for effective management of secondary schools in Enugu State.

HO₂: There is no significant difference between the mean scores of principals and teachers on the ICT skills needed by principals in terms of internet usage for effective management of secondary schools in Enugu State.

Research Method

Descriptive survey research design was adopted for the study. This was used because the study merely elicited information through questionnaire from the respondents, as the situation existed without manipulation of any variable. The choice for the design is based on the assertion of Ezeji (2009) that a descriptive survey method is one which involves the assessment of public opinion using questionnaire and sampling methods. The study was conducted in the thirty one (31) public secondary schools in Enugu Education Zone of Enugu State. The population for the study comprised all the 31 principals and the 542 teachers. There was no sampling because the researcher perceived the population to be manageable. Questionnaire that contained 12 items was used as an instrument for data collection. Research experts in Faculty of Education, Enugu State University of Science and Technology validated the instrument. The reliability of the instrument was determined by the use of Cronbach Alpha method which yielded 0.80 for cluster 1 and 0.76 for cluster 2 with an overall reliability index of 0.79 which made the instrument reliable. A 4 point response scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used by the respondents. Two research assistants who were properly briefed assisted the researcher during the data collection process. The research assistants were guided on the method of administering the instrument as well as the responding to pertinent questions. The researcher made used of mean and standard deviation to analyse the data as regards the research questions and t-test statistics to test the hypotheses.

Research Question 1: What are the ICT skills needed by principals in terms of data processing for effective management of secondary schools in Enugu State?

Table 1: Mean response scores of principals and teachers on the ICT skills needed by principals in terms of data processing for effective management of secondary schools in Enugu State

S/N	ICT skills needed by principals in terms of data processing are:	Principals $\overline{x}$	SD	Dec	Teachers $\overline{x}$	SD	Dec
1.	collecting data of staff and students.	2.58	0.99	A	2.60	0.95	A
2.	creating simple data base structure for the students.	2.61	0.91	A	2.69	0.97	A
3.	formatting results of the students.	2.54	0.94	A	2.62	0.92	A
4.	printing the students' results.	2.57	0.85	A	2.57	0.89	A
5.	analysing data using statistical tool.	2.73	0.88	A	2.55	0.96	A
6.	interpreting results of the data analysed.	2.58	0.90	A	2.59	0.88	A
	Cluster Mean	**2.60**	**0.91**	**A**	**2.60**	**0.93**	**A**

The data presented on Table 1 showed that the respondents agreed to the items stated. The principals' mean ranged from 2.54 to 2.73 while the mean ranged of teachers is from 2.55 to 2.69.

Rev. Fr. Dr. Onubuleze Franklin Kelechi

In addition, they were cluster means of 2.60 and 2.60 and with standard deviations of 0.91 and 0.93 for principals and teachers respectively. The respondents were generally of the view that data processing skill is needed by principals for effective management of secondary schools in Enugu Education Zone of Enugu State.

Research Question 2: What are the ICT skills needed by principals in terms of internet usage for effective management of secondary schools in Enugu State?

Table 2: Mean response scores of principals and teachers on the ICT skills needed by principals in terms of internet usage for effective management of secondary schools in Enugu State

S/N	ICT skills needed by principals in terms of internet usage are:	Principals $\overline{x}$	SD	Dec	Teachers $\overline{x}$	SD	Dec
7.	Sending and accessing electronic mails	2.55	0.99	A	2.62	0.85	A
8.	Downloading secondary school related files	2.51	0.97	A	2.54	0.90	A
9.	Accessing different educational websites	2.58	0.90	A	2.52	0.99	A
10.	Involving in distance knowledge delivery	2.52	0.83	A	2.59	0.94	A
11.	Networking with other staff as well as students	2.51	0.85	A	2.57	0.90	A
12.	Making use of internet phones to communicate with staff and students	2.53	0.88	A	2.61	0.92	A
	Cluster Mean	**2.53**	**0.90**	**A**	**2.58**	**0.92**	**A**

The data presented on Table 2 showed that the respondents agreed to all the stipulated items. The principals' mean ranged from 2.51 to 2.58 while the mean ranged of teachers is from 2.52 to 2.62. In addition, they were cluster means of 2.53 and 2.58 and with standard deviations of 0.90 and 0.92 for principals and teachers respectively. The respondents were generally of the view that internet usage skill is needed by principals for effective management of secondary schools in Enugu Education Zone of Enugu State.

HO₁: There is no significant difference between the mean scores of principals and teachers on the ICT skills needed by principals in terms of data processing for effective management of secondary schools in Enugu State.

Table 3: t-test on the mean response scores of principals and teachers on the ICT skills needed by principals in terms of data processing for effective management of secondary schools

Variables	n	Mean	SD	df	t-cal	t-crit	Decision
Principals	31	2.60	0.91				
				571	0.00	1.96	Not Significant
Teachers	542	2.60	0.93				

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 response scores of principals and teachers on the ICT skills needed by principals in terms of data processing for effective management of secondary schools.

HO₂: There is no significant difference between the mean scores of principals and teachers on the ICT skills needed by principals in terms of internet usage for effective management of secondary schools in Enugu State.

Rev. Fr. Dr. Onubuleze Franklin Kelechi

Table 4: t-test on the mean response scores of principals and teachers on the ICT skills needed by principals in terms of internet usage for effective management of secondary schools

Variables	n	Mean	SD	df	t-cal	t-crit	Decision
Principals	31	2.53	0.90				
				571	1.56	1.96	Not Significant
Teachers	542	2.58	0.92				

Hypothesis 2 tested above on table 4 shows that the t-calculated value of 1.56 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 response scores of principals and teachers on the ICT skills needed by principals in terms of internet usage for effective management of secondary schools.

Discussion of Findings

It was found in research question 1 that data processing skill is one of the ICT skills needed by principals for effective management of secondary schools in Enugu State. The findings are in agreement with the work of Kogge (2009) which stated that data processing is used extensively in nearly all areas in which computers are used such as in education to process data electronically by the teachers/principals. Therefore, it is necessary for principals to posses the needed skills in these areas. This will make them to be more efficient in their management of secondary schools. The analyzed data for the test of hypotheses 1 showed that there was no significant difference between the mean response scores of principals and teachers on the ICT skills needed by principals in terms of data processing for effective management of secondary schools.

The findings on internet usage skills needed by principals for effective management of secondary schools in Enugu State were revealed in table 2. The findings were in conformity with the work of Leon (2013) which stated that the

internet offers the best opportunity of getting specialized information from the web. Chime (2014) maintained that the internet is one of the major innovations of the computer that has found its way deeply into the academic sector; using the internet makes available to the principals information that cannot be found in any other way except through the World Wide Web (www). The analyzed data for the test of hypotheses 2 showed that there was no significant difference between the mean response scores of principals and teachers on the ICT skills needed by principals in terms of internet usage for effective management of secondary schools.

Conclusion

Based on the findings of this study, the following conclusions were reached: Principals in the secondary schools in Enugu State need all the ICT skills (data processing and internet usage) identified for effective management of secondary schools. There was no significant difference in the mean responses of principals and teachers in all the ICT skills.

Recommendations

Based on the findings, the following recommendations were proffered:

1. The principals should be given adequate training on the use of information and communication technology tools in order to improve their professional development opportunities.
2. The government should provide all the necessary internet facilities in the schools for easy accessibility by the principals as well as other interested staff.

References

Ade, L. (2007). *Planning for change:* School community collaboration in elementary school. Urban Education, 35, 79-103.

Ayo, F.A. (2011). Information and communication technologies and the information professionals in the

Rev. Fr. Dr. Onubuleze Franklin Kelechi

information age. *A paper delivered at the 39th National annual conference and A.G.M*, Owerri, June, 17-22.

Blurton, C. (2000). New direction ICT-use in education. *Journal of Curriculum Studies.* 16(1), 43-52.

Brown, P. C. (2009). *Teaching ICT skills to students,* New York: tunnel Books Company.

Chime, C. A. (2014). E-Learning: a great tool towards educational quality and growth: the science teacher today, *Journal of School of Science,* 2 (1), 25-30.

Chinwe, V.N. (2015). Application of information and communication technology in serial function in university libraries in Southern Nigeria. *Unpublished Ph.D. Thesis,* University of Nigeria, Nsukka.

Comer, D.E. (2009). *Internet Microsoft ® Encarta ® 2009.*Microsoft Corporation

Ezeji, S.C.O.A. (2009). *Basic principles of research in education* Enugu: Cheston Agency Limited.

Federal Republic of Nigeria, (FRN, 2013). *National Policy on Education.* Lagos: NERDC.

Kogge, P.M. (2009). *Data processing Microsoft ® Encarta ® 2009* Microsoft Corporation

Leon, A. (2013). *Internet for everyone,* New Delhi: Vika Publishing House PVT Limited.

Nworgu, B.C. (2008). *Education in the information age:* global challenges and enhancement Strategies, Nsukka: University Trust Fund.

Oboegbulem, A. & Onwurah, C. (2011). *Organization and management of education.* Nsukka: Great AP Express Publishers Ltd.

Ochai G.O. & Ebirim U. (2011). Application of ICT in the management of students' personnel services: *Nigeria at 50: Issues, Challenges and Agenda.* In S. A. Ezeudu, E. O. Ezeani, J. O. Onuoha & S. E. Nwizu. (Eds.)- Enugu: *TIMEX Enterprises.*

Okereke, W.C. (2008). Internet and Marketing, retrieved on 2nd June, 2012

Oshuniyi. R.O. (2011). *Qualitative vocational secondary and tertiary education as essential ingredient of national development. Unity* watch magazine October 2011 pg 9. King crown printing and publishing Ltd.

Osinem, E.C. & Nwoji, U.C. (2015). *Students' industrial work experience in Nigeria, concepts, principles and practice,* Enugu: Cheston Agency Ltd.

Soanes, C. (2011). *Oxford dictionary of current English (revised)* New York: Oxford University Press

Valasidou, A. (2008). The impact of ICTs in education: the case of University of Macedonia students. *Journal of Business Studies* (14)3.

Rev. Fr. Dr. Onubuleze Franklin Kelechi