

A SURVEY OF THE PROBLEMS OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) UTILIZATION, SKILLS AND NEEDS AMONG PRINCIPALS IN ANAMBRA STATE, NIGERIA

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Abstract

This study investigated problems of information and communication technologies (ICT) utilization, skills and needs among principals for effective schools administration in Anambra state. Three research questions guided the study. A descriptive survey research design was adopted. The population of the study was 476 principals. The sample consisted of 225 principals selected randomly from 225 secondary schools sampled. The instrument used for data collection was a self designed 37 structured ICT utilization skills questionnaire which was face validated by five experts, three from the department of computer science education and two from educational administration and planning unit of the department of Educational Foundations, Faculty of Education, University of Nigeria, Nsukka. Cronbach alpha reliability method was used to determine the internal consistency of the instrument; a reliability coefficient index of 0.89 and 0.86 were obtained for cluster one and two respectively while frequency counts and percentage scores were used to answer cluster three. Two hundred and twenty five copies of the instrument were administered which were all retrieved and analyzed using weighted mean and standard deviation. A benchmark of 2.50 mean was set as acceptance or rejection criterion. The study revealed that principals had low utilization skills for ICT and need some skills to be able to effectively utilize ICT facilities where available in order to enhance schools' administration. It was further found that there were some structural limitations to utilization of ICT such as lack of power supply and absence of internet facilities constituted major impediments to effective utilization of ICT. Other problems of ICT utilization include principals' phobia for adopting ICT based school administration and low availability of ICT accessories among others. Based on these findings, recommendations were made to enable state government to equip schools with ICT facilities, plan and implement vigorous ICT workshops based on critical needs areas as well as design and implement a capacity building program for continuous training and retraining of principals on ICT utilization skills in secondary schools.

Keywords: ICT, principals, skills, administration, needs, utilization

Introduction

Recently, there is a paradigm shift in response to the revolutionized schools administration using modern technologies in order to fast track the administrative process in most schools. This situation ushered in a more boisterous and competitive learner friendly environment that is technologically driven to meet up with the global best practices in education. Therefore, the incursion of ICT in secondary schools in recent times has not only made learner autonomy and individualized based learning possible but guarantees smooth administration of many schools. The principals are at the helms of affairs of secondary schools administration saddled with the responsibilities of effecting

needed transformations agenda, through their effective and efficient school administration (Babalola, 2008). School administration exists for the primary role of ensuring the smooth operations of the school system. The roles of school principals are increasingly challenging in the modern times of information and communication technology (ICT) based school administration by educational stakeholders globally. Sequels to the new approach in administration of secondary schools, the principals are not only required to have versatile knowledge of ICT but be able to make use relevant skills of ICT in the process of schools' administration in order to prevent tardiness. Principals are referred to as the school head or chief executives who have major responsibilities to manage human and material resources of the schools, who plan, organize, coordinate and ensure adequate staffing, controlling to ensure the achievement of set educational objectives.

The principals ensure that teaching and learning is seamlessly carried out by the teachers using relevant technological tools available and as needed in school system. Ikpe (2014) opined that a revolutionized school administration following rapid changes in information and communication technologies does not only deepen, accelerate and enrich fundamental skills for schools principals but can also motivate and enhance students' capacities as self-directed learners. The author further noted that the educational stakeholders like principals and teachers have come to the grips with internet age making it compulsory for them to be acquainted with skills for ICT utilization. Although, there is now an enabling policy for successful integration of ICT into the school administration in Nigeria, not much has seemingly been achieved. The level of ICT utilization skills leaves much to be desired from the supposed users in schools for teaching and learning, and in facilitating the processes of school administration are yet to achieve an enviable standard. Recent studies according to Okonkwo (2020) revealed low level of ICT utilization in school system observing that a vast majority of school principals are yet to implement ICT based school administrative system.

Based on previous findings, the today's principals are not only expected to be knowledgeable but identify their needs in ICT utilization skills to become professionally disposed to tackle the challenges confronting secondary schools administration. They cannot achieve a target without honing of ICT utilization so as to keep abreast with the required body of knowledge necessary to achieve educational goals. Carter(2019) stated that educational administrators is a term used to describe principals, vice principals and directors of schools in official capacity meant to midwife the achievement of educational goals.. Evans(2020) defined school principals as educational experts with adequate knowledge expected to perform duties in line with current technological innovations to be capable of supervising teaching and learning, to effectively manage and administer schools. Operationally, principal is a professional school head with requisite skills through training and education having the capacity to administer schools effectively. Based on this premise, principals have onerous task to ensure secondary schools are run successfully using ICT skills which had come like an unavoidable tools in education (Maduekwe, 2015). Specifically, the phobia associated with ICT application due to lack of skills had triggered a lot of confusion among principals and teachers' increased anxiety and administrative stress. Hence, critically assessing principals' administrative knowledge gaps in ICT are very important steps and relevant at this juncture in accordance with specific school situations to effect desirable changes.

This assertion was corroborated by Maduekwe (2015) who posited the roles that principals play in transforming teaching and learning to be dynamic process of effecting continuous desirable changes through effective ICT utilization in school system. It is the

principal who shape future of learning environment to accommodate new pedagogy and teachers' active engagement to think rationally and apply necessary instructional materials. At secondary schools principals' effectiveness play key roles in the overall cognitive development of the learners. Presently, ICT is at the epicenter of the teaching and learning in many secondary schools today. With the aid of ICT, the school environment is transformed into interactive oriented and environment friendly beyond traditional classroom limits, ensure adequate participation in teaching and learning, sorting of staff files, create students and teachers' data base, write and send urgent messages in email, manage office files electronically, process and create virtual environment to experiment and explore learning among others.

The use of ICT offers a wide range of choices and innovative ways that is now mostly absent in the traditional schools management and administration (Bahrudin, 2001). Information and communication technology now have revolutionary impact in education and pedagogical approaches (Ololube, 2006). Various ICT facilities are used in teaching and learning process apart from administrative duties making it holistically essential modern facilities for running of schools. Some of these facilities as identified by Bryers (2004), Bandele (2006) and Ajayi (2007) include radio, optical fibres, satellite equipment computers, multimedia, internet, tablets, u-tube, overhead projectors videos, fax, CD-Rom, electronic board, slides among others. The use of ICT facilities in school administration involves various methods which include systematized feedback system, computer based operation network, video conferencing and audio conferencing, internet worldwide websites, compact discs with Read Only Memory (CD-Rom), Can coders and digital camera, multimedia, computer assisted instruction (Umeifekwem, 2005). In the same vein, Ugwoke et al, (2015) maintained that computer applications in schools administration has left serious impact in school organization and can take the following forms: Computer Aided Instruction (CAI), Computer Assisted Learning (CAL), e-instructional supervision of teachers, e-library, Computer Managed Learning (CML), Simulations, tutorials, demonstrations, drills and practices, computer games and application programming. Computer application provides principals with efficient and most effective tools to monitor staff performances even from distant locations thus making it a smart school environment (Olorundare, 2006). ICT also makes lessons interesting, easier and more fun, improve presentation of materials and allows greater access to computer for personal use. Other importance includes making schools' administrative work less strenuous, more efficient and providing professional support through the internet (Coxe, et al, 1999). According to Ajayi (2008) ICT stimulates classroom interaction and discourage passivity, liberate teaching and learning from the constraints of the linear curriculum and provides a bridge between the home and school learning. However, it must be stressed that the effective use of the various methods of ICT in administration will to a large extent depend on the availability of the ICT facilities and utilization skills to make them possible.

Skills are essential elements which can be obtained through training and education so as to be able to perform certain tasks. Pearson (2007) defined skills as ability to perform certain operations effectively as acquired through experience and training. Krevisky and Jordan (2014) viewed skills as competencies with which one can perform or carry out a particular task. To be competent means having enough skills or knowledge to do something to a satisfactory standard. In other words, for a school administrator to be competent in changing times of modern ICT applications into school administration, he or she must possess certain skills. Skills are needed to be acquired in order to work according to the desired plan or if a system no longer work the way of specifications as

may be needed to be done from time to time. Possession of skills is the core to efficient service delivery to meet up with the minimum standard of best practices. The need for skills arises as a result of ineffectiveness and inefficiencies in the process as orchestrated by inadequate knowledge, and abilities. These shortcomings constitute ineffectiveness in school administration leading to inability to achieve set target. The inherent gaps in today's management and administration of secondary schools in Anambra state might be orchestrated in the poor implementation and utilization of ICT into the running of schools. ICT utilization skills enable principals to update themselves with the current techniques in the administration of schools. Hence, ICT skills capability needs of the school principals will help them to effectively supervise teachers' instructional delivery and monitor school operations more actively. According to Hornby (2003) need is a circumstance that requires something to be done. Similarly, Chuka (2002) posited that need is what one requires in order to meet a target standard. When the target is attained or a principal achieves a measurable standard through improved skills the outcome will lead to saleable learning and performance outcomes.

In Anambra state, management of schools has been worsening especially in public schools where records of staff data have been largely manually operated many files lost to the rain, termites or not reachable and missing. In addition, Eze (2010) observed that the decline in quality service delivery of teachers in Anambra state is associated with inadequate ICT utilization. Ench (2018) revealed that principals' performance in public secondary schools is still a serious challenge with cases of poor records keeping. The problem for the low utilization of ICT includes inadequate training, resistance to change, computer phobia (Ugwoke, 2011). Other observable limiting factors include poor infrastructure, lack of internet facilities, inadequate fund and low skills to manage computer assisted instructions among others. Based on these impediments, studies are required to determine structural challenges bedeviling secondary schools administrators from effective utilization of ICT in secondary schools administration Anambra state, Nigeria.

Statement of the Problem

The increasing realization of the potential benefits of computer literacy or digital technologies amongst principals has a driving force towards the needs to integrate ICT into schools administration. Adoption of ICT based schools administration promises to revolutionize and enhance effective schools administration. The school administrators do not only have little knowledge and skills about ICT but it poses serious phobia in their mindset at mentioning ICT integration in secondary schools administrative system. This scenario particularly affects principals nowadays who are supposed to work as astute administrators in secondary schools. By so doing, they plan, organize, coordinate, control, and ensure adequate staffing and proper budgeting through the prudent utilization of ICT in schools. Unfortunately, the school administrators are inexperienced and not knowledgeable enough and skilled that their competencies has raised a question regarding the chances of successfully incorporating an ICT based school administration and management system in Anambra state. This situation has become so worrisome that appointment in into principalship is sometimes based on possession of ICT skills. There is need therefore to update the skills , body of knowledge of school principals to a high competency level for administrative efficiency and effectiveness .The problem confronting principals might be handled using myriads of ICT skills that can be independently used by principals, if they possess requisite knowledge and skills. This will

further enhance administrative roles performance of principals and inspire their passion in handling school administrative duties. Unfortunately, many principals are seemingly bereft of skills in the ICT utilization, incessantly complain of lack of opportunities to acquire necessary skills that help them implement policies through an effective utilization of ICT.

Purpose of the Study

The general purpose of the study was to determine the problems of ICT utilization skills and needs among principals in Anambra state specifically, the study determined:

1. The skills needed by principals in ICT utilization in secondary schools.
2. The structural limiting factors in utilization of ICT facilities in the schools.
3. The availability of ICT facilities in effective administration of secondary schools.

Research Questions

The following research questions were posed to guide the study

- 1 What skills are needed by principals in ICT utilization in secondary schools?
- 2 What are the structural limiting factors in utilization of ICT facilities in the schools?
- 3 What is the level of availability of ICT facilities in effective administration of secondary school?

Methods

The study adopted descriptive survey research design. Descriptive survey, according to Ikegbusi (2021) is the kind of survey which uses sample from a population to document, describe and explain what is in existence or non-existence on the present status of phenomenon being investigated. The study was carried out in Enugu state, Nigeria. The population of the study consisted of all the secondary school principals in Abambra state. The sample consisted of 225 principals out of a population 476 principals using simple random sampling technique. A self-designed questionnaire was used to collect data for the study. The instrument for data collection was 42-competency cluster structured questionnaire items for collecting data. The questionnaire was divided into two categories of needed and availability. The needed category has a 4-pointt response scale of Highly Needed (HN), Moderately Needed (MD), Slightly Needed (SN), Not Needed (NN) with a corresponding values of 4, 3, 2 and 1 for category one. A checklist was used for collection of data on availability of facilities. The questionnaire was validated by five experts two from educational administration unit and two from the department of computer science education and one from measurement and evaluation unit. The validated questionnaire was subjected to cronbach alpha reliability method yielding coefficient of 0.87 and 0.86. This proved that the internal consistency of competency improvement items of the questionnaire was valid. The whole copies of the questionnaire were retrieved. Weighted mean on competency improvement needed index (INI) were employed in answering research questions one and two while frequency counts and percentages were used in answering research question three. On (INI) any questionnaire item that scored less than 2.50 means that improvement is not needed while any item that scored 2.5 and above indicates that improvement is needed.

Results

Research Question 1

What are the skills needed by principals in utilization of ICT in secondary schools?.

Table 1: Skills Needed analysis on Principals' utilization of ICT facilities (SNICTU)

S/N	Items	$\bar{X}$	SD	Remarks
1.	Save a document or file	2.75	0.78	Highly Needed

2.	Open a file	2.81	0.67	Moderately Needed
3.	Move files	3.56	0.75	Highly Needed
4.	Use word processor	3.88	0.48	HN
5.	Write or send e-mails	2.61	0.39	MN
6.	Construct web page	3.85	0.45	HN
7.	Delete document or files	3.41	0.77	HN
8.	Print a document of file	2.93	0.56	MN
9.	Scroll a document	2.68	0.37	M N
10.	Create / edit a document	3.11	0.51	HN
11.	Copy data to CD	3.42	0.11	HN
12.	Get on to the internet	3.55	0.19	HN
13.	Write and read e-mails	3.34	0.58	HN
14.	Copy files from internet	2.87		MN
			0.38	
15.	Attach files email message	2.72	0.63	MN
16.	Download files from internet	3.72	0.45	HN

Table 1 shows low capacity of skills to write and send emails. Especially principals were seen to be backward in getting on the internet 3.55, in copying files 2.87 highly needed, use of word processor 3.88 highly needed, ability to use power-point presentation, 3.88 which is highly needed, copy data to CD 3.43, write and read email 3.34 print a document moderately needed 2.61 moderately needed. On the whole ICT skills are highly needed as majority of items appears above benchmark score of 2.50 indicating that principals do not have the skills needed.

Research Question 2

What are the structural limiting factors in the utilization of ICT facilities in schools?

Table 2: Structural Limiting Factors to the Utilization of ICT Facilities

S/N	Items	$\bar{X}$	SD	Remarks
1.	Inadequate internet service	3.54	0.34	Accept
2.	Epileptic electricity supply	3.67	0.12	Accept
3.	Teachers are not trained on use of ICT facilities	2.73	0.46	Accept
4.	Lack of ICT integration in teaching of subjects	3.45	0.82	Accept
5.	No in-service training for teachers on the use of ICT	2.62	0.91	Accept
6.	ICT materials not sufficient	2.83	0.38	Accept
7.	Absence of information technology centre	2.41	0.54	Reject
8.	Lack of functional computers in school	3.62	0.47	Accept
9.	Expensive cost of maintaining ICT facilities	3.52	0.59	Accept
10.	Teachers phobia for the use of ICT	3.14	0.51	Accept
11.	Students inability to adapt to use of ICT in learning	3.61	0.58	Accept
12.	Grand Mean/SD	3.19	0.52	Accept

Table 2, shows that there are myriads of limiting factors bedeviling utilization of ICT that pose serious challenges to the principals' capability to make use of the modern ICT facilities in schools. The worst among these include epileptic electricity supply 3.67, lack of computers 3.62, and phobia for the use of computers in teaching 3.14, inadequate internet service 3.54 and lack of ICT integration in teaching 3.45 mean scores.

Research Question 3

What is the level of availability of ICT facilities in utilization of ICT in secondary schools' administration?'

Table 3: level of availability of ICT facilities in utilization of ICT in secondary schools' administration

S/N	Items	Available	%	Not available	%
1.	Internet	98	44	123	56
2.	Computers	45	20	176	80
3.	Projectors	56	25	165	75
4.	Television sets	38	17	183	83
5.	Radio	63	29	158	71
6.	Recording players	32	14	189	86
7.	Tape recorders	42	19	179	81
8.	Disc players	37	17	184	83
9.	Electronic board	15	7	206	93
10.	Electronic mail	14	6	207	94

As shown in table 3, the percentage of available ICT facilities in secondary schools is very low, especially considering the percentage of the availability of electronic boards, disc players, electronic mail, recording players and tape recorders which are very essential for storing and retrieving information that can be from time to time during evaluation of the quality of administration .scoring less than 50% and the least percentage of 6% indicate very low availability of ICT facilities.

Discussion of the Findings

The results of the study revealed that principals need skills such as the ability to write and send emails, copy data to file, create and edit document, move files on a computer, download files on internet, attach files to email messages and use word processors among others. The findings agreed with those of Ugwoke,(2011) who found that principals of secondary schools in Enugu state must be continuous learners through development programme so as to acquaint themselves with relevant operations using ongoing innovations in emerging technologies for smooth running of secondary schools administrations. By implication, this will also ensure that principals are continually trained, retrained to enhance their effectiveness in performing some specific computer operation tasks which are vital in today's contemporary active office administration. Table 1 indicated that majority of the items means of scores of respondents were scored above 2.50 which shows a strong indications that principals need a number of skills to be able to utilize ICT facilities in their schools administration. In as much as principals might be willing to use ICT for administration in secondary schools, other measures must be put in place such as facilities and needed skills. These outcomes could be so because many of the principals didn't have the opportunity for digital technologies training during their university education to be able to manipulate computers. Therefore, mounting a seminar continuously in the area of ICT skills acquisition is crucial and urgent to enable principals adapt and adjust to the new moves in a technology age for effective transmission of information.

The study further revealed that there are some inherent limiting factors bedeviling the use of ICT in schools administration to include principals' phobia for computers application, inability to adapt or adjust to changes using ICT facilities among others (Maduekwe, 2015). This might be as a result of lack of training of principals on the use of

ICT in their offices. The study further revealed that the capacity of principals to apply ICT facilities depended largely on the availability and mastery skills needed to operate computers and apply same for administrative purposes. The major reason for low utilization lies basically on inadequate skills, epileptic power supply, lack of support for the integration of ICT in secondary school administration. The result of this finding agreed with the study conducted by Okonkwo (2020) who saw the non availability of ICT facilities as the bane of effective ICT utilization in secondary schools of Edo state and Delta states of Nigeria. Their findings further revealed that the required skills to make use of ICT facilities were not possessed by the schools personnel for effectiveness. The findings of authors cited above have given credence to the results of the present study.

Another major problem is low percentage availability of ICT facilities in secondary schools. This could be as a result of poor funding of the schools. The percentage availability of ICT facilities majority of which scored less than fifty percent (50%) is clear indication that facilities may not be put into operation due to non-availability. This finding is in line with the reports of Olorundare(2006) who stated that major challenges encountered in the use of ICT lean heavier to non availability of internet facilities, and its accessories for effective utilization to take place. These show that there are compelling needs to increase available ICT facilities as needed by the principals and upgrade them to usable conditions for administrative and learning purposes.

Conclusion

Secondary schools principals lack skills needed for using ICT facilities in administration. This circumstance might have contributed in no small measures towards the observed schools' administrative bottlenecks in terms of administration and management of both human and material resources. Above all, principals' phobia in ICT integrated school system due to their inability to utilize ICT and lack of infrastructure and facilities to apply ICT constituted the major problems in effective administration of secondary schools in Anambra state.

Recommendations

Based on these findings, the following recommendations are made:

1. There should be adequate provision of ICT facilities and a follow up training of principals on how to effectively make use of ICT facilities in schools.
2. Principals need continuous professional development training program on ICT utilization.

REFERENCES

- Ikegbusi, N.G. (2022). Research design and stages in research design. In N.J. Obikeze (Ed). *Basic research method: Principles and techniques* (pp. 264-280). Igbariam: Univivrsity Press.
- Akpan, C.P. (2014). ICT competence and lecturers job efficacy in universities Cross Rivers state Nigeria. *International Journal of Humanities and Social Science*, 4(10), 259-266.
- Babalola, J.B. (2008). *Teacher education and challenges of global economic meltdown*. A lead paper delivered in Alayande College of Education, Oyo.
- Babalola, J.B. (2010). *In search of excellence in teacher education: The university of education model*. Ijebu-ode: Tai Solarin University of Education.
- Ikpe, A.(2014). Effects of e-learning instructional strategy on acadenmic achievement, retention and attitude of chemistry students of different age groups at the National

- Open University of Nigeria. *Unpublished ph D dissertation at Ahmad Bello University Zaria.*
- Morris, C.J.(2020).Dynamism of professionalism. Retrieved from <http://www.profession.ed.org>.
- Ogbonnaya, N. O.(2020).Principles and application of educational policies. Nsukka Trust Publishers.
- Okonkwo, C.A.(2014). A study of science education students digital literacy skillsfor the global connectivity in the 21st century .Conference of STAN.
- Oladeji, A. (2007). Information and communication technology in classroom instruction. *Journal of Professional Teacher Trainer*, 11(1), 10-15.
- 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 Education and Development using ICT*, 2(3).
- Olorundare, A.S. (2006). *Utilization of ICT in curriculum development, implementation and evaluation*. Lead paper presented at the national conference on ICT, University of Nigeria, 15-18.
- Tsatsou, P. (2017). Reconceptualising time and space in the era of electronic media and communications. *Journal of Media and Communication*, 1(4), 11-52
- Ugwoke, E.O.. (2011). Effective utilization of ICT for repositioning business education programme in tertiary institutions in Nigeria for national development. *International Journal of Education Research*, 11(1), 202-213.
- Umeifekwem, J.E. (2005). *Embracing the current advances in sports coaching process: A need from awareness and integration in the professional preparation and growth of physical education*. A paper presented at NAPHDER-SD 1st annual conference, Awka.
- Vasudevaiah, G. (2016). Promoting usage of ICT in open and distance education programs. *The International Journal of India Psychology*, 3(3), 77-80. Retrieved from <http://oaji.net/articles/2016/1170-1466768104.pdf>.
- Wokocha, K.D., Wolugbom, R.K., Appah, C.N. & Olorunfummi, E. (2016). Information and communication technologies (ICT) challenges encountered in teaching business education in Rivers state tertiary institutions. *Academic Research in International*, 7(1), 175-182.
- Yusuf, M.O. (2005). Information and communication technology and education: Analyzing the Nigerian national policy for information technology. *International Education Journal*, 6(3), 316-321. Retrieved from <https://www.researchgate.net/publication/228615696>.