



# International Journal of World Policy and Development Studies

ISSN(e): 2415-2331, ISSN(p): 2415-5241

Vol. 2, No. 10, pp: 75-80, 2016

URL: <http://arpgweb.com/?ic=journal&journal=11&info=aims>

## Survey of Ict Awareness, Utilization and Challenges in Managing Secondary Schools in Onitsha Education Zone of Anambra State, Nigeria

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**Abstract:** This study surveyed Information and Communications Technology (ICT) awareness, utilization and challenges in managing secondary schools in Onitsha Education Zone. Three research questions guided the study. The study adopted the descriptive survey research design. The population comprised 80 respondents made up of all the 32 principals and 48 Computer Science teachers in Secondary Schools in Onitsha Education Zone of Anambra State. The researchers studied the entire population since it was not large. The instrument for data collection was a structured type questionnaire developed by the researcher. It validated by experts and the reliability was established using the split half method which yielded a coefficient value of 0.80 using the Pearson product moment correlation coefficient. Data was analyzed using the mean method for the three research questions. From the findings of the study, it was found that principals to a high extent are aware of ICT facilities used in school management but utilize them to a low extent. Recommendations were proffered based on the findings of the study and they include: increased provision of ICT facilities used in school management by the government, training and retraining of principals on ICT utilization and testing of principals skills on ICT before appointment amongst others.

**Keywords:** ICT awareness; ICT utilization; ICT challenges; School management; Secondary education.

### 1. Introduction

In Nigeria and other countries of the world, education systems at all levels are given tremendous investment and financial input both governmental and non-governmental agencies. This reason, according to FGN (2004) is that no nation can rise above the quality of its education system. On the quest to make Nigeria educational system more efficient and productive, the government have concentrated effort in making sure that computer and other information and communication technologies (ICTs) are fully integrated in the education system especially at the secondary school level.

In his contribution, Njoku (2006) saw ICT in the context of education as the combination of technologies for collecting, storing, processing, communicating and delivery of information related to teaching and learning processes. He identified three categories of ICT to include processed information (that is, computer system), disseminated information (i.e. telecommunication systems), and represented information (that is, multimedia systems).

The effort to integrate ICT into all spheres of education system is based on its obvious advantages in achieving not only the educational goals and objectives but also a *sin qua non* for economic development. In support of the above, UNESCO (2002) recognized ICTs as a major factor in shaping the new global economy and producing rapid changes in the society. It also recognized that ICTs have the potential to transform the nature of education—where and how learning takes place and the roles of students and teachers in the learning process. In specific terms, UNESCO (2002) argued that:

“...for education to reap the full benefits of ICTs in learning, it is essential that pre-service and in-service teachers have basic ICT skills and competencies. Teacher education institutions and programmes must provide the leadership for pre-service and in-service teachers and model the new pedagogies and tools for learning. They must also provide leadership in determining how the new technologies can best be used in the context of the culture, needs, and economic conditions within their country. ... Teacher education institutions also need to develop strategies and plans to enhance the teaching

learning process within teacher education programmes and to assure that all future teachers are well prepared to use the new tools for learning.”

The above argument has underscored the relevance of ICT in teaching and learning processes. It serves a lot of purposes in the school system. ICT is used in pedagogy, administration and communication. In pedagogy, ICT is used for inquiry based learning, open and distant teaching and learning, ICT is used to track student progress and provide continuous data to teachers, students and parents which may be seen as a management innovation but it also has an impact on learning. In administration, there are recent innovations for students and staff records, database of the school, school website, attendance spreadsheet inventories, etc. ICT is also rated the fastest means of communication, this is aided in school by electronic mails, social Medias, telephone calls, internet etc. Some other benefits of ICT integration are saved time, could be reinvested in other priorities, ICT according to [Leanne et al. \(2014\)](#) have the role of improving the way schools are managed in the following ways:

- a) Reduce routine administration
- b) Improve the effectiveness of support staff
- c) Reduce the bureaucratic burden on teachers
- d) Facilitate the transfer of some tasks from teachers to support staff
- e) Enable teachers to more effectively plan and deliver teaching and learning.

In secondary school system in Nigeria and Onitsha Education Zone in particular, the principal is the administrative leader. The role of a principal in determining the academic tone in particular and management techniques can be influenced by the extent the principals are aware and utilize ICT facilities in their schools. Thus, with the recent and various improvements in human activities, technological changes/advancements which have led to advancements in all spheres of life and sectors of the economy, it is necessary that every principal gets acquainted with ICT ([Ofojebe et al., 2015](#)). [Wango \(2009\)](#) suggests that the quality of education can be enhanced through improved school administration and management.

This study elaborates how imperative it is for the leader of a school not only to acquaint his or her self with the knowledge of ICT, but to ensure its integration in the school system. This is supported by [Granston \(2000\)](#) who confirmed that the school principal is at the center of changes that occur in the school. [Alike and Adirika \(2009\)](#) confirmed that one of the strategies for effective administration is that principals should develop innovative approaches in the area of communication. [Persaud \(2006\)](#) concluded from his study that management tasks would be automated and streamlined, if ICT were integrated in leadership training, giving more time for managers to focus on instruction. [Bober \(2001\)](#) argues that ICT literacy is necessary for leadership that can enhance school performance. Today’s principals are expected to be familiar with ICT to be able to cope with emerging technological changes, because successful change flows from learning, growth and development ([Mitzerg et al., 1998](#)). From the forgoing it can be concluded that the principal is a principal change agent, hence the urgent need for ICT literacy. It is believed that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching methods, improve learning outcomes and enable reform or better management of education systems. Yet, a recent “knowledge mapping” exercise conducted by the World Bank’s Information for Development Programme (InfoDev) [UNESCO \(2011\)](#) revealed that, despite decades of large investments in ICT to benefit education in OECD countries and its increased use in developing countries, data to support the perceived benefits from ICT are limited and evidence of effective impact is elusive or even debatable. These findings highlighted various knowledge gaps and underscored the need for internationally accepted standards, methodologies and indicators to better measure the real benefits of ICT in education [UNESCO \(2011\)](#).

## 2. Statement of the Problem

For years, the management of secondary schools especially in Onitsha Education has been print based, making the duties of principals too cumbersome. Personal experience confirmed that it is common to find schools that operate on a low level ICT literacy just because the principal is not aware and does not use ICT facilities in their schools. It is also speculated in the area that the teachers are more aware of ICT than the principals. Discussion with some principals and teachers in the area revealed that factors such as high cost of infrastructures, lack of training, inadequate power supply; weak infrastructures etc. are factors militating against the awareness and usage of ICT facilities by school principals. There also a pressing need to ascertain to what extent governments investment in ICT infrastructures are being utilized and integrated by school principals in school management. Thus the question “how many principals are aware of ICT facilities and to what extent do they utilize them in school management?”

## 3. Research Questions

1. What is the extent of ICT awareness among the secondary school Principals in Onitsha Education Zone of Anambra State?
2. What is the extent of utilization of ICT facilities in managing secondary schools in Onitsha Education Zone of Anambra State?
3. What are the challenges to ICT awareness and utilization in managing secondary schools in Onitsha Education Zone of Anambra State?

## 4. Research Method

A survey research design was used for the study which was carried out in the thirty-two (32) Secondary Schools in Onitsha Education Zone of Anambra State. The population comprised 80 respondents made up of all the 32 principals and 48 Computer Science teachers in Secondary Schools in Onitsha Education Zone of Anambra State. The researchers did not involve any sampling or sampling technique since the population was not large. The instrument for data collection was a structured type questionnaire developed by the researcher. The instrument was structured to elicit information on ICT awareness, utilization and challenges in secondary schools in Onitsha Education Zone based on a four point scale of very high extent (VHE) = 4; high extent (HE) = 3; low extent (LE) = 2 and very low extent (VLE) = 1. The Questionnaire was validated by three experts: one in the departments of Measurement and Evaluation; one in Computer Science and one in Educational Management and Policy all in Nnamdi Azikiwe University, Awka. The instrument was modified using their suggestions. In testing for the reliability of the instrument, the questionnaire was administered to 20 respondents in Otuocha Education Zone. Data collected were used to compute reliability efficient of internal consistency of 0.81 using Cronbach Alpha. A face-to-face method of administration was used to ensure a hundred percent (100%) return of the questionnaire. The research questions were answered using means. A mean rating of 2.50 and above was accepted as indicative of high extent while 2.49 and below indicated low extent.

## 5. Data Analysis

**Research Question One:** What is the extent of ICT awareness among the secondary school principals in Onitsha Education Zone of Anambra State?

**Table-1.** Extent of ICT Awareness among the Secondary School Principals in Onitsha Education Zone of Anambra State

S/NO	ITEMS	VHE	HE	LE	VLE	Mean $\bar{X}$	Remark
1	Television (TV)	35 140	19 51	0 0	0 0	3.5	High extent
2	Laptop computers	40 160	10 30	3 6	1 1	3.7	High extent
3	Smart board	2 8	3 9	19 38	20 20	1.4	Low extent
4	Video camera/photo camera	30 120	13 39	7 14	4 4	3.3	High extent
5	Scanner	35 140	15 45	4 8	0 0	3.6	High extent
6	Overhead projector	22 88	15 45	13 26	4 4	3.0	High extent
7	Digital photocopier	40 160	10 30	4 8	0 0	3.7	High extent
8	Computer printer	42 168	12 36	- -	- -	3.8	High extent
9	Internet browser	46 184	6 18	2 4	- -	3.8	High extent
10	Multimedia projector	36 144	7 21	6 12	5 5	3.4	High extent
11	Close circuit television (CCTV)	3 12	5 15	26 52	20 20	1.8	High extent
12	Radio/cassette player	51 204	3 9	- -	- -	3.9	High extent
13	Desktop computers	48 192	6 18	- -	- -	3.9	High extent
Mean of Mean						3.3	

Table 1 presents the data analysis of the respondents on principals ICT awareness. It was found that many principals are aware to a high extent of the above listed ICT facilities in the area studied. The items 1,2,,4,5,6,7, 8 9,10,12 and 13 gave mean score of 3.5, 3.7, 3.3, 3.6, 3.0, 3.7, 3.8, 3.8, 3.4, 3.9, and 3.9 respectively. These are above 2.5 which is the accepted mean score that shows that principals are to a high extent aware of the above listed ICT facilities. However, items 3 and 11 were rated below 2.5 (i.e. 1.4 and 1.8 respectively), indicating the areas where the principals are not aware of the ICT facilities.

**Research Question Two:** What is the extent of utilization of ICT facilities in managing secondary schools in Onitsha Education Zone of Anambra State?

**Table-2.** Extent of Principals ICT Facilities Utilization in Onitsha Education Zone of Anambra State

S/NO	ITEMS	VHE	HE	LE	VLE	Mean X	Remark
14	Partaking in online discussion room (i.e. Skype, Imo, etc.)	9 36	11 33	24 48	10 10	2.4	Low extent
15	video conferencing (audio and video)	6 24	8 24	20 40	20 20	2.0	Low extent
16	ensuring that teachers undertake courses on internet	11 44	7 14	22 44	14 14	2.2	Low extent
17	monitoring daily routine and class room instruction with close circuit television	15 45	4 12	28 56	7 7	2.2	Low extent
18	sending e-mails to teachers	30 120	10 30	4 8	10 10	3.1	High extent
19	using projectors for meetings and classroom instruction	26 104	17 28	6 12	5 5	2.8	High extent
20	Using smart board for classroom instruction.	- -	2 6	25 50	27 27	1.5	Low extent
21	Ensuring that all tutorial and administrative staff have a desktop.	46 136	4 4	4 4	- -	2.3	Low extent
22	Ensuring that all tutorial and administrative staff have a laptop.	31 124	8 24	2 4	13 13	3.0	High extent
23	Ensuring that all departments have a printer and a scanner.	28 112	11 22	15 15	- 15	2.7	High extent
Mean of Means						2.42	

The results in table 2 showed that teachers in the area do not make maximum use of ICT in teaching and learning. This was shown in the mean score of the majority of items which tested principals and teachers' use of ICT were below 2.5. Items 14, 15, 16, 17, 20, and 21 have mean score of 2.4, 2.0, 2.2, 2.2, 1.3 and 2.3 respectively, while only items 18,19,22, 23, and 24 are 2.5 and above.

**Research Question Three:** What are the challenges to ICT awareness and utilization in managing secondary schools in Onitsha Education Zone of Anambra State?

**Table-3.** Challenges to ICT Awareness and Utilization in Secondary Schools in Onitsha Education Zone of Anambra State

S/NO	ITEMS	VHE	HE	LE	VLE	Mean X	Remark
24	Principals do not have enough money to buy their personal computer	3 9	7 21	25 50	19 19	1.8	Low extent
25	Principals were not trained with ICT facilities before they were appointed	35 140	11 33	8 16	- -	3.5	High extent
26	Principals have not received in-service training on ICT since they were appointed	38 152	16 48	- -	- -	3.7	High extent
27	Principals think that the students find learning very difficult when ICT devices are used	6 24	14 42	24 48	10 10	2.4	Low extent
28	Teachers are afraid of damaging the computers so they don't use them as instructional materials	4 16	6 18	24 48	20 20	1.8	Low extent
29	There are no sufficient computers and other ICT facilities in the schools	33 132	8 24	9 16	4 4	3.2	High extent
30	There are no ICT laboratory in the schools	12 48	5 15	13 26	24 24	2.1	Low extent
31	There is no internet connection in the schools	28 112	7 21	15 30	4 4	3.1	High extent
32	There is no electricity connection in the schools	10 40	12 36	19 38	13 13	1.5	Low extent

33	Educational policies in Nigeria do not promote/support the use of ICT in teaching in secondary schools	13 52	12 36	14 28	15 15	2.4	Low extent
34	Government does not consider the knowledge of the use of ICT when employing new teachers	24 96	17 51	8 16	5 5	3.1	High extent
35	Government does not provide in-service training on ICT for teachers	25 100	16 48	9 16	4 4	3.1	High extent
36	Principals think they are too old to use computer and other ICT devices	7 28	11 33	20 40	16 16	2.2	Low extent
Mean of Means						2.6	

Results in [table 3](#) showed the challenges to ICT awareness and utilization in the area of study. They included non-training of principals before appointment, non-training of principals with ICT facilities, non-internet connection in existing computer laboratories in the schools, government non consideration of ICT skills as criteria for teachers' employment and non-provision of ICT in-service training for teachers. The respondents however disagreed that lack of enough money to buy personal computer, non existing computer laboratories, difficulty in learning the ICT, fear of damaging the computer, non-electricity connection, nonsupport of ICT by Nigerian educational policies and old age are problems militating against ICT literacy and usage by the principals.

## 6. Summary of Findings

The following summary of findings was made based on the research questions:

- (1) The extent of ICT awareness among the secondary school principals in Onitsha Education Zone of Anambra State is very high.
- (2) The extent of ICT facilities utilization among the secondary school principals in Onitsha Education Zone of Anambra State is low.
- (3) Major challenges to ICT awareness and utilization in Onitsha Education Zone of Anambra State included lack of training on ICT, lack of adequate ICT facilities, and lack of government supports.

## 7. Discussion of Findings

Discussion of the Result of this study was guided by the research questions postulated. The results from [table 1](#) show that most of the respondents imply that principals are aware of ICT facilities. The finding is in line with [Mosenson and Johnson \(2008\)](#). On their research "on the ICT awareness of teachers, where they found out that family and consumer sciences teachers showed an awareness of the potentials of ICT for teaching and learning" The result is also in support [Subair et al. \(2014\)](#) that found out that principals are aware of the importance of ICT facilities used in school administration and management in Osun state.

[Table 2](#), shows that principals to a low extent use ICT facilities in school management, despite the huge government investment on the procurement of these facilities. This finding is in line with the findings of [Angie and Rita \(2013\)](#), their findings showed that the use of ICT in school administration is a necessity and worthwhile venture especially in this era of globalization but the extent of their application in secondary schools is very slow as school administrators are incompetent in handling ICT facilities for effective administration. This finding is also in line with the findings of the studies of [Unachukwu and Nwankwo \(2012\)](#). Their findings showed that majority of secondary school principals are not ready for the use of ICT. The above findings also support the findings of the studies of [Angie and Rita \(2013\)](#). The result of the analysis showed that the level of computer literacy of the science teachers examined is low. Their level of utilization of ICT resources was also found to be very low.

The result of the analysis of [table 3](#) shows that factors such as non-training of principals before appointment, non-training of principals with ICT facilities, non-internet connection in existing computer laboratories in the schools, government non consideration of ICT skills as a criteria for teachers employment and non-provision of in-service training for teaching on ICT are the major factors militating against teachers ICT awareness and usage. This concurs with the findings of [Subair et al. \(2014\)](#). Their study focused on the principals' challenges in the awareness and usage of ICT facilities in administration of secondary schools in the administration of secondary schools in Ogun State. They found out that principals utilize ICT facilities to a low extent in this educational zone because of non availability of these facilities, lack of principal training, and low government intervention in providing these facilities amongst others.

## 8. Conclusion

Findings of this study have clearly indicated that principals in Onitsha Education Zone of Anambra State are to a high extent aware of ICT facilities except smart board and the close circuit television (CCTV) but basically do not utilize ICT facilities due to some challenges facing ICT in Onitsha Education Zone of Anambra State.

## Recommendations

1. Government should increase supply of sufficient ICT facilities that would aid easy management of the schools and full integration of ICT facilities provided should be ensured by authorities involved.
2. Government should train and retrain the teachers on the terms ICT awareness and usage for better productivity and efficiency
3. ICT should be integrated in the teacher education curriculum
4. Government should test Principals on ICT skill before they are appointed.

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