

**AVAILABILITY OF INFORMATION AND COMMUNICATION TECHNOLOGY FACILITIES
AND TEACHERS' PROFICIENCY IN THE USE OF INFORMATION AND
COMMUNICATION TECHNOLOGY IN PUBLIC SECONDARY SCHOOLS IN AKOKO
NORTH EAST LOCAL GOVERNMENT AREA OF ONDO STATE**

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Abstract

The study investigated availability of ICT facilities and teachers proficiency in the use of ICT in public secondary schools in Akoko North East local government area of Ondo State, Nigeria. The descriptive survey method was employed for the study. The purposive sampling method was used to select 12 public secondary schools. Random sampling method was used to select ten (10) teachers each from the public secondary schools in the Local government area making a total number of 120 teachers. One hundred and twenty (120) copies of the questionnaire were administered to teachers and 109 copies were retrieved, giving a response rate of 90.8%. The data was analysed using frequency count, percentages. The findings of the study revealed ICT facilities were not available, majority of the teachers have low level of ICT proficiency. Also, irregular power supply and lack of ICT facilities are the major hindrances to the adoption and proficiency in the use of ICT. It is recommended that the government should ensure that secondary schools in the local government are provided with electricity and stand by generator and internet services, adequate ICT equipment should be deployed for teaching and learning, training and re-training of teachers on basic ICT application for teaching and learning

Keywords: ICT, facilities, Teachers, Public, Secondary Schools

Introduction

The world has changed dramatically in recent decades, and the need to acquire, utilise, and exchange information has become increasingly important. The age of knowledge and information has accelerated in the twenty-first century. This is an era in which unseen knowledge and information are the primary drivers of all sectors. (Onuoha and Obialor (2015) emphasised that information and communication technologies (ICT) have transformed the world economy and converted it into a global village. There is no denying that information and communication technology (ICT) has become a must-have in daily life. ICT advancements have had a significant influence on virtually every aspect of human life. In service industries including banking, health care, transportation, and education, the impact has been well-documented.

According to Pedagoo (2020), the introduction of new technologies into our daily lives has allowed for a significant growth in the usage of ICT in education in recent years. ICTs have become more important in our society, with a diverse range of applications in fields as diverse as entertainment, administration, robotics, and education. ICTs potentially offer a powerful dimension to transform the way the young

generation prepares for further learning ICT has become an important aspect of the learning process for students both inside and outside the classroom in the education sector. ICTs have clearly influenced teaching, learning, and research, according to Yusuf (2005). ICTs have become an important instrument for professional training; the sooner teachers and learners understand how to utilise ICTs, the simpler it will be for them to grasp the most up-to-date techniques of data collecting and knowledge transformation. Access to and utilisation of information is no longer a luxury, but a must for progress. According to Agbetuyi and Oluwatayo (2012), the integration of information and communication technology into the Nigerian educational system has become permanent; its significance has not translated into enormous potentials in terms of positive outcomes. Carrasco and Torrecilla (2012) found that using ICT for teaching and learning is linked to school success and student achievement. This suggests that implementing an ICT policy in secondary schools will help pupils attain their educational objectives.

The educational sector must bear responsibility for progressively introducing all technologies that may benefit student learning in some manner, as well as ensuring that students learn to utilise them in a world where they are already a part of professional life and their social surroundings. ICTs have become a key instrument for professional training; the sooner or later teachers understand how to utilise ICTs, the simpler it will be for them to grasp the most up-to-date techniques of data collecting and knowledge transformation. The main cause of underdevelopment is a lack of information. Creative minds become economic leaders in a knowledge and information-based society, and knowledge professionals are in high demand. If knowledge is equal to development, then the knowledge gap is proportional to the development gap (Onuoha & Obialor 2015). Gadzama, Katuka, Dalhatu, Abali and Nguodo (2019), defined Information and communication technology (ICT) as a term that describes technology that uses electronic means to transmit, save, produce, display, share, or exchange data. It's almost hard to think of an educational system that hasn't been affected by information and communication technologies (ICT) in some way. Given the rate at which information and communication technologies (ICT) are being spread and incorporated into every aspect of human life, notably education. Information and communication technology (ICT) is seen as the convergence of computers (equipment and software) and other micro electronics devices capable of recording, processing, storing, retrieving, and distributing data to users. Computers, the Internet, printers, CD/DVD players, photocopiers, digital cameras, projectors, and telephone fax machines are examples of ICTs. Oyedipe and Popoola (2018)

Kinelev, Kommers & Kotsik (2004), affirmed that teachers have been polarized in their acceptance of the new technologies. Whilst some have enthusiastically integrated computers and the internet into the classroom, other has been cautious in their welcome, and some have simply rejected the technologies.

The vision to make Nigeria an ICT capable country in Africa and a key player in the information society by using ICT as an engine for sustainable development and global competitiveness is yet to be achieved; this is because ICT is at particularly a dynamic stage in Africa and Nigeria is not left out. Several challenges are responsible for its full actualization. These include poor IT infrastructure, inadequate ICT manpower, epileptic power supply and high cost of ICT facilities among others, (Agbetuyi & Oluwatayo 2012).

Literature Review

The first national programme was the Federal Government's National Policy on Computer Education (FRN, 1988). The National Policy on Education (FRN), as updated in 1998, re-emphasized the integration of technology into the educational system, according to Joel Ogi and Ikpe (2019). This acknowledges the need to progress beyond the computer to the level of ICT, as well as the necessity for infrastructure. The establishment of a national ICT policy by the Federal Government was the first comprehensive attempt to incorporate ICT into all aspects of the country's existence. The Nigerian national policy for information technology (FRN, 2001) recognised the need for ICT to be used in education. The policy emphasised the need for ICT tools to be implemented in education for three major goals: to empower students and teachers with ICT skills, to prepare students for competitiveness in a global environment, to integrate ICT

into the mainstream of education and training, and to establish multifaceted ICT institutions as centres of excellence.

In 2019, the policy was revisited. The review was a watershed moment in the development and use of ICT in education. Gallego et al. (2014) asserted that a country's ICT policies and regulations must be effective and active at all levels if it is to improve the quality of education. The necessity for a uniform and coordinated use of ICT in education drove the formulation of the National Policy on ICT in Education in 2019. Within the context of the Constitution of the Federal Republic of Nigeria, the National Policy on Education, the policy identifies the critical role of ICT in achieving the National Vision: achieving qualitative education for the enhancement of sustainable socio-economic development, global competitiveness, and individual development and fulfilment. ICT is one of the required subjects at the senior secondary school level, regardless of the students' preferred field of study. According to (Owan and Asuquo 2021), the inclusion of computer studies into secondary school curricula is motivated by global technological revolutions. As a result, it is unsurprising that it has been integrated into the educational curriculum and is widely used. In this technology-driven age, everyone requires ICT competence to survive

The use of ICT in teaching and learning in senior secondary school as well can assist in reducing the teachers' workloads through its use for lesson preparation, instructional delivery as well as teaching and learning evaluation, besides teachers will become learning facilitators, collaborators, coaches, mentors, knowledge navigators, and co-learners and not only dispensers of knowledge. In spite of of the Federal government's attempts to ensure accessibility, availability and proficiency of ICT, its use by teachers in most public secondary schools remains a subject of concern. According to Adomi and Kpangban (2010), efforts have been taken to guarantee that ICT is available and utilised in Nigerian secondary schools, although adoption remains low.

According to Shuaibu, Faruna, and Daniel (2017), in most Nigerian schools, workers still manually register pupils, keep records of pupil performance, keep inventory lists of supplies, handle cost accounting, pay bills, write reports, and create architectural plans. Most of these tasks are generally completed by school employees over the course of hours, days, or even months. Traditional methods of chalk and talk are still used in classrooms, causing students to fall dangerously behind in the world's changing trends.

Many studies have been conducted on teachers' proficiency in the use of ICT for instance Nwasinachi and Bernadette (2014) conducted a research on the assessment and projected application of ICT usage among secondary school teachers in Enugu State, Nigeria. According to the findings, teachers in the responding schools were not well-versed in ICT use. This demonstrates how little ICT is used in Nigerian secondary schools for teaching and learning. Teachers are not aware of how to use ICTs for pedagogical purposes; instead, they prefer the old fashioned chalk and talk method. According to Owan and Asuquo (2021), the problems are likely to have an impact on the quality of ICT teaching and learning in secondary schools, which might impair students' satisfaction with ICT as a topic in school. According to Okebukola (1997), over 90% of Nigerian public schools do not have computers in their classrooms; hence chalkboards and textbooks continue to dominate classroom activities. This shows that public secondary schools students still trailing behind in terms of world transformation.

Fakeye (2010) conducted a research in Ibadan Southwest LGA of Oyo State on English language teachers' knowledge and usage of ICT. It was discovered that in practically all of the schools tested, computer availability and internet connectivity were non-existent. The study also discovered that usage was reliant on availability, and that because availability was poor, usability was also poor. Adomi and Kpangban (2010) investigated the use of ICT in Nigerian secondary schools and discovered that

numerous variables were linked to poor ICT use in Nigerian secondary schools. The study's findings indicated that limited/poor information infrastructure came out on top. Due to a lack of information infrastructure, this study found that ICT development and implementation are not well established in Nigeria.

In a study on teachers' and students' use of ICT tools for teaching and learning mathematics in Ilorin, Nigeria, Ameen, Adeniyi, and Abdulahi (2019) looked at the amount of use of ICT tools by teachers and students. The findings found that the majority of mathematics instructors lacked knowledge of how to use ICT tools in the classroom.

There are a variety of obstacles to ICT adoption at the elementary and secondary educational levels. In their study, Olokoba, Okunloye Abduisalam, and Balogun found that one of the most significant hurdles in adopting ICT for teaching and learning in secondary schools was inconsistent power supply. It is difficult for the Nigerian government to properly implement educational policies that have been created and formulated for the country's educational progress. There are several educational policies in place, but inadequate government policy execution has slowed ICT adoption. (Jacob, Jegede and Musa 2020). According to Egede, Ebio, and Iroegbu (2020), the efficient use of ICT facilities is highly dependent on the ability of teachers and students to use ICT facilities to help in teaching and learning. The use of ICT facilities at educational institutions is mostly determined by the quantity of ICT instructors or teachers available at any one moment. The efficient use of ICT facilities in schools is being hampered by a lack of ICT manpower in educational institutions. According to research, a lack of qualified ICT instructors is impeding the successful implementation of computer instruction in Nigerian schools. Gadzama (2019) conducted research on the effective use of ICT in teaching and learning in Nigerian public secondary schools. The study found that a significant barrier to the use and integration of computers and ICT in schools is the lack of software and hardware infrastructure. Additionally, the survey revealed that not all public secondary schools in Adamawa State had been given access to computers and other ICT tools. This means that instructors would not be able to integrate ICT successfully if there were software and hardware problems, as there must be necessary software and hardware facilities in schools for effective ICT integration.

Nigeria has approximately 6000 public secondary schools, however the majority lack books, paper, and pencils, according to Joel, Ogi, and Ikpe (2019), many of the schools do not have enough infrastructure, such as classrooms, and just a handful have televisions or radios. Oruwari 2013 investigated problems and prospects of utilizing ICTs in Owerri educational zone of Nigeria, using purposive sampling of 1894 respondents to which structured questionnaires were administered. The resulting data were analyzed using simple percentages, means and Standard deviations. Major problems limiting the use ICTs in the study zone included power supply and inadequate number of computers and accessories, which even where present were not functioning well. Amuchie (2015) examined the accessibility and use of ICT resources in teaching and learning in secondary schools in Ardo-Kola and Jalingo, Taraba State. Inadequate electric power supply received a 96 percent rating, indicating that it was a major challenge. Ejiroghene (2021) stated that many schools are unable to link to the World Wide Web because of the high costs involved in telecommunications

Eze (2020) opined that during teachers' field training they do not have access to technologically enriched classroom. Rather they are exposed to classrooms where they use chalk board to teach. This does not give trainee teachers opportunity to explore the little knowledge gained in the area of ICTs. Kweka and Ndibalema (2018) investigated constraints hindering adoption of ICT in government secondary schools in Tanzania: The case of Hanang District. The study revealed that, most of the teachers were not competent to use ICT in teaching and learning because of lack of exposure to digital materials and facilities. The researchers are of the view that, if they are provided with the ICT facilities and opportunity for ICT training, it is possible to witness the effective adoption. Teachers' adoption of ICT to improve teaching

and learning in government owned secondary school has been very minimal due to several factors which include lack of competence, exposure, facilities, training and mentors, just to mention a few. According to Ejiroghene (2021) NEPAD ranked teachers from the African continent with very low level of ICT experience and their ability to use them. Traditional African school environment does not provide resources or preparation to use ICTS and that 75% of responding teachers have no or rather limited ICT educational applications experience and expertise.

Objectives of the Study

The purpose of this study was to assess the secondary school teachers' usage of ICT in Akoko North East Local Government Area of Ondo State.

The study specifically seeks to:

- i. Find out availability of ICT facilities in public secondary schools in Akoko North East Local Government Area of Ondo State.
- ii. Ascertain teachers level of ICT proficiency in public secondary schools in Akoko North East Local Government Area of Ondo State
- iii. Examine challenges facing ICT usage and adoption among teachers in public secondary schools in Akoko North East Local Government Area of Ondo State.

Research Questions

To achieve the stated objectives of the study, the following research questions were developed to guide the study;

- i. What are the ICT facilities available in public secondary schools in Akoko North East Local Government Area of Ondo State?
- ii. What is the level of ICT proficiency among teachers in public secondary schools in Akoko North East Local Government Area of Ondo State?
- iii. What are the challenges facing ICT usage and adoption among teachers in public secondary schools in Akoko North East Local Government Area of Ondo State?

Methodology

The descriptive survey method was employed for this study. The purposive sampling method was used to select 12 public secondary schools in Akoko North East Local Government area of Ondo State Nigeria. Random sampling method was used to select ten (10) teachers each from two public secondary schools in Akoko North East Local Government area of Ondo State Nigeria making a total number of 120 teachers. Questionnaire was used to collect data from respondents. One hundred and twenty (120) copies of the questionnaire were administered, and 109 were retrieved giving a response rate of 90.8%. Data were analyzed using frequency count, percentages.

Table 1: Gender

S/N	Items	Frequency	Percentage
1	Male	23	21.1
2	Female	86	78.9
	Total	109	100

Table 1 above shows that 78.9% respondents are female while 21.1% respondents are male. This implies that there are more female in teaching profession than male.

Table 2: Academic Qualification/Status

S/N	Items	Frequency	Percentage
1	Doctoral Teachers (PhD.)	1	1.0
2	Master Teacher (Master)	25	22.9
3	Graduate Teachers (First Degree)	43	39.4
4	NCE Teachers (NCE)	40	36.7
	Total	109	100

Table 2 shows that majority of the respondents were graduate teacher with first degree certificate 43(39.4%), followed by NCE Teachers with 40(36.7%), those that has Master's degree who were Masters teachers were 25(22.9%) while the least respondents were Doctoral teachers with PhD constituting 1(1.0%).

Table 3: Years of Experience as a Teacher

S/N	Years	Frequency	Percentage
1	1-5 years	13	11.9
2	6-10 years	18	16.5
3	11-15years	27	24.8
4	16-20 years	25	22.9
5	21-25 years	19	17.4
6	26 years above	7	6.4
7.	Total	109	100

Table 4 shows the working years of teachers with 11 - 15years respondents with 27(24.8%), followed by 16-20(22.9%) years respondents with 16-20 (22.9%), 6-10 years with 18(16.5%), 1-5 years with 13 (11.9%) while the least respondents were those with more than 26 years with 7(6.4%) respectively.

Table 4: Availability of ICT facilities in public secondary schools

S/N	ICT Facilities	Available		Not Available	
		Frequency	Percentage	Frequency	Percentage
1	Internet	6	5.5	103	94.5
2	Printers	5	4.6	104	95.4
3	CD/DVD players	4	3.7	105	96.3
4	Photocopiers	8	7.3	101	92.7
5	Digital Cameras	0	0	10	100
6	Desktop computers	33	30.3	76	69.8
7	Laptop computers	0	0	100	100
8	Projectors	3	2.8	106	97.2
9	Fax machines	0	0	109	100
10	Television	7	6.4	102	93.6
11	Electronic notice board	0	0	109	100

It is evident from table 4 that majority of the respondents believes that ICT facilities is lacking in most public secondary schools. With internet 103(94.5%), printers 104 (95.4%), CD/DVD players 105 (92.7%), photocopiers 101 (92.7%), Digital cameras 0(100%), Desktop computers 76(69.8%), laptop computers 100(100%), projectors 106 (97.2%), Fax machine 109(100%), Television 102(93.6%) and Electronic notice 109(100%). The result implies that ICT facilities are not available in public secondary schools in Akoko North East Local government area of Ondo state. The study is in line with Nwasinachi and Bernadette (2014) in their study on assessment and prospective application of information and communication technology among secondary school teachers in Enugu Urban, Nigeria; the findings indicated that ICT facilities were not fully available in many schools. Okwudishu (2005) maintained that the unavailability of some ICT components in schools hampers teachers' use of ICTs.

Table 5 Level of ICT Proficiency among Teachers

S/N	Level of Proficiency	Frequency	Percentage
1	My level of proficiency in the use of ICT is very high	7	6.4
2	My level of proficiency in the use of ICT is moderate	12	11.0
3	My level of proficiency in the use of ICT is average	35	32.1
4	My level of proficiency in the use of ICT is low	55	50.5
	Total	109	100

It is evident from table 5 that the highest number of respondents stated that their level of proficiency in the use of ICT is low, with 55 (50.5%). This was closely followed by 35 (32.1%) who indicated that their level of ICT proficiency was average. 12 (11.9%) indicated that their level of ICT was moderate, while the least number of respondents, 7 (6.4%), indicated a low level of ICT proficiency. This is in line with Fidelis and Onyango (2021) in their study that majority of teachers did not have competence in any of the aspects of computer, Ogundile et al (2019) opined that most teachers are ICT illiterate and have not received proper training to catch up with the trend of changes in the world.

Table 5 Constraint to ICT Skills Acquisition

S/N	Constraints	Frequency	Percentage
1	Poor perception of ICTs among teachers and administrators	12	11
2	Irregular power supply	36	33.0
3	Lack of staff training and development	15	13.8
4	Inadequate ICT facilities in schools	37	33.9
5.	Lack of ICT manpower in the schools	9	8.3
	Total	109	100

Table 4 lists five constraints to ICT proficiency. It is evident from the data analysis that five of the constraints listed have a negative effect on the respondents' ICT proficiency. It is revealed that 37 (33.9%) indicated inadequate ICT facilities in schools, 36 (33.0%) indicated irregular power supply, this is corroborated by Oruwari (2013) in his study identified power supply and inadequate number of computers and accessories, 15 (13.8%) claimed lack of staff training and development, 12 (11%) admitted lack of/poor perception of ICT among teachers and administrators, while 9 (8.3%) indicated lack of ICT manpower in the schools.

Summary of the findings:

- i. Most public secondary schools teachers in Akoko North East local Government area in Ondo State have very low level of computer proficiency.
- ii. ICT facilities are not available in most public secondary schools in Akoko North East local Government area in Ondo State
- iii. Inadequate ICT facilities in schools and erratic power supply are the major obstacle militating against proficiency of ICT by teachers

Conclusion

Information and communication technologies are vital factor in successful development of education. Secondary Education is a decisive stage, however; learning and studying at this age has the most potential impact on forming new members of the knowledge community.

Marafa and Akintola (2020), opined that the use of ICT in teaching, learning, and research is the most notable advance in the field of education. To properly utilise ICT in this period of widespread adoption, educators must be creative, inventive, adaptable, and willing to rethink their conception of the teaching and learning process. Despite the roles ICTs in education, secondary schools in Nigeria have yet to extensively adopt them. Efforts geared towards integration of ICTs into the secondary school system, have not had much impact.

Recommendations

In view of these numerous shortcomings the following recommendations are made

1. The government should ensure that secondary schools are provided with electricity and stand by generator and internet services.
2. Adequate ICT equipment should be deployed for teaching and learning nationwide
3. Training and re-training of teachers on basic ICT application for teaching and learning
4. ICT –Based classroom assessment should be built into Teacher Education Curriculum.

5. Public primary and secondary schools should be incorporated into Educational Trust Fund to take care of ICT.

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