

TEACHERS' PERCEPTION TOWARDS THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) DEVICES IN THE IMPLEMENTATION OF PRIMARY SCHOOL CURRICULUM IN NSUKKA LOCAL GOVERNMENT AREA, ENUGU STATE

Ogele, Ibem Ukpai¹; Ishiwu, Innocent Ugwuoke² & Rosemary Ogbodo Adoga³

¹Arts Education Department, University of Nigeria, Nsukka

²Dept. of Educational Foundations, Godfrey Okoye University, Enugu

³National Open University of Nigeria (NOUN)

Abstract

The purpose of this study was to investigate teachers' perception of the use of information and communication technology (ICT) devices in the implementation of the primary school curriculum in Nsukka Local Government Area (L.G.A.), Enugu State. The study adopted a descriptive survey research design. The population comprised 505 teachers from 38 public primary schools in Nsukka L.G.A. A simple random sampling technique was used to select 20 schools, and a total of 120 teachers were sampled. A structured questionnaire titled Teachers' Perception of the Use of ICT Devices in Implementation of the Primary School Curriculum (TPIIPSC) and a checklist were used for data collection. The instruments were validated by three experts, and the reliability was established using Cronbach Alpha, yielding a coefficient of 0.83. Data were collected through direct administration of the questionnaire and analyzed using percentage, mean, and standard deviation. A benchmark of 2.50 was used for decision-making. The findings revealed that only a few ICT devices, such as public address systems, mobile phones, computers, projectors, and microphones, were available in primary schools. The extent of utilization of these ICT devices was low due to teachers' lack of ICT knowledge, inadequate ICT facilities, poor internet access, and insufficient funding. Based on the findings, it was recommended that stakeholders in the education sector should ensure the provision of adequate ICT devices and support regular ICT training for teachers. This study contributes to knowledge by providing empirical evidence on the gap between ICT availability and its utilization in primary school curriculum implementation.

Keywords: Teacher perception, information and communication technology

Introduction

The successful implementation of a primary school curriculum depends largely on teachers' perception and willingness to integrate innovative instructional tools such as Information and Communication Technology (ICT) devices. As technology continues to reshape educational practices globally, its adoption in Nigerian primary schools remains a subject of concern. Teachers' perception towards ICT use plays a crucial role in determining its effectiveness in classroom instruction and curriculum implementation. According to Obih, Ejeh, and Azubuike (2019), the curriculum serves as the foundation of any education system, outlining the knowledge, skills, and values that learners must acquire. However, Osam (2013) argues that no matter how well a curriculum is designed, its success is dependent on effective implementation, which requires the use of appropriate instructional tools. ICT is a major technological advancement that has transformed various sectors, including education. It includes digital tools and applications such as computers, projectors, mobile devices, and interactive learning software, all of which enhance teaching and learning experiences. Chukwu, Onuoha, and Aroh (2021) emphasize that ICT facilitates knowledge acquisition, promotes independent learning, and improves instructional delivery. Recognizing the significance of ICT in education, the Federal Republic of Nigeria (FRN, 2014) integrated ICT into the National Policy on Education, advocating for its application at all levels of learning. However, despite these policy efforts, many primary school teachers remain reluctant or inadequately equipped to

utilize ICT devices in classroom instruction (Salau, 2003). Teachers, as the primary implementers of the curriculum, play a crucial role in determining the extent to which ICT is integrated into teaching and learning. Their perception shaped by personal experiences, training, and infrastructural support directly influences their willingness to adopt ICT tools. According to Osam (2013), teachers serve as the bridge between educational policies and students' learning experiences, meaning their attitudes toward ICT can either enhance or hinder its adoption. Negative perceptions towards ICT use may arise due to inadequate training, lack of resources, weak infrastructure, and insufficient government support (Ezenwa, 2014). These challenges hinder the effective use of ICT in curriculum implementation, thereby limiting students' exposure to digital learning experiences.

Primary education is a critical stage in Nigeria's educational system, serving as the foundation for learners' cognitive and social development. According to the National Policy on Education (FRN, 2014), primary education is essential for equipping children with fundamental skills that prepare them for secondary education and beyond. However, Mlungishi and Dominique (2014) observe that without the integration of modern instructional strategies such as ICT, traditional teaching methods may fail to address the learning needs of 21st-century learners. Therefore, ensuring that teachers embrace ICT in delivering the curriculum is essential for achieving educational objectives (Yakubu & Aboho, 2015). Given the increasing global reliance on technology in education, it is imperative to examine teachers' perception of ICT use in primary schools, particularly in Nsukka Local Government Area, Enugu State. This study seeks to assess teachers' perception of ICT devices in curriculum implementation, identify the challenges affecting their adoption, and propose strategies for enhancing ICT integration in primary school education. Understanding teachers' perspectives will enable policymakers and stakeholders to develop targeted interventions that improve ICT utilization and enhance learning outcomes in Nigerian primary schools.

The integration of Information and Communication Technology (ICT) in education has gained global recognition for enhancing teaching methodologies, promoting interactive learning, and improving students' academic performance. While ICT has been incorporated into Nigeria's National Policy on Education, its practical implementation in primary schools remains limited due to infrastructural deficiencies, lack of teacher training, and inadequate government support.

Despite the benefits of ICT, teachers' perceptions significantly influence its adoption in classrooms. Some teachers view ICT as beneficial and are willing to integrate it, while others perceive it as challenging due to insufficient technical support, poor internet connectivity, and irregular power supply. Existing research has primarily focused on ICT use in higher education and secondary schools, with limited studies examining teachers' perception of ICT in primary school curriculum implementation, particularly in Nsukka Local Government Area. Additionally, most studies have emphasized infrastructure and policy gaps rather than investigating teachers' personal experiences, motivation, and professional development in ICT integration. This study seeks to bridge this gap by exploring how teachers perceive ICT devices in primary school curriculum implementation, identifying key barriers, and proposing strategies to enhance ICT adoption. The findings will be valuable for educational policymakers, curriculum planners, and school administrators in improving ICT utilization in primary schools.

Statement of the Problem

The effective implementation of the primary school curriculum is essential for laying a strong foundation in a child's educational journey. Ideally, Information and Communication Technology (ICT) should play a crucial role in enhancing curriculum delivery, fostering interactive learning, and improving teaching efficiency. Integrating ICT into primary education is expected to facilitate personalized learning, promote creativity, and ensure access to quality instructional materials. However, in reality, the use of ICT in primary school curriculum implementation remains inadequate, particularly in Nsukka Local Government Area. Many teachers lack the necessary skills, infrastructure is insufficient, and government support is often

limited. Additionally, poor electricity supply, high costs of ICT devices, and limited internet access further hinder effective integration. Teachers' perceptions also play a significant role, as negative attitudes or lack of confidence in using ICT can contribute to its underutilization in classrooms. Given these challenges, there is a need to examine teachers' perceptions of ICT devices in implementing the primary school curriculum. This study aims to explore the extent to which teachers utilize ICT, identify factors influencing their perception, and highlight potential strategies for improving ICT adoption in primary education. The findings will provide insights for policymakers, educators, and school administrators to enhance the use of ICT in primary school curriculum implementation.

Purpose of the Study

The general purpose of this study is to investigate teachers' perception of the use of Information and Communication Technology (ICT) devices in the implementation of the primary school curriculum in Nsukka Local Government Area, Enugu State. Specifically, the study seeks to:

1. Ascertain the available ICT devices that teachers can use to teach primary school pupils in Nsukka Local Government Area.
2. Examine the extent to which teachers use ICT devices in teaching primary school pupils.
3. Identify the challenges associated with the use of ICT devices in teaching primary school pupils.

Research Questions

The study is guided by the following research questions:

1. What are the available ICT devices that teachers can use to teach primary school pupils in Nsukka Local Government Area?
2. To what extent do teachers use ICT devices to teach primary school pupils?
3. What challenges do teachers encounter in using ICT devices to teach primary school pupils?

Methods

This study adopted a descriptive survey research design. The population comprised all 505 primary school teachers from the 38 primary schools in Nsukka Local Government Area (L.G.A.), which includes Nsukka town, Opi, Ede-Oballa, Aru-uno, Edem, Obimo, and Eha-Alumona. A simple random sampling technique without replacement was used to select 20 out of the 38 primary schools, ensuring equal opportunity for all schools to be chosen. From each of the 20 sampled schools, six teachers were randomly selected, bringing the total sample size to 120 teachers. Data were collected using a structured questionnaire titled "Teachers' Perception towards the Use of ICT Devices in the Implementation of Primary School Curriculum (TPIIPSC)" and a checklist developed by the researchers. The instruments were validated by three experts—two from the Department of Arts Education (Curriculum and Educational Technology units) and one from the Department of Science Education (Measurement and Evaluation unit). After validation, Cronbach's Alpha was used to determine the internal consistency of the instruments, yielding a reliability coefficient of 0.83, indicating high reliability. A total of 120 copies of the questionnaire were administered to the respondents by the researchers. Data collected were analyzed using percentages, mean, and standard deviation. The decision rule was based on the following benchmarks: for the availability of ICT devices, items with 50% and above were considered available, while those with 49% and below were considered unavailable. A mean benchmark of 2.50 and above was used to determine accepted items, while items with a mean value of 2.49 and below were rejected. The response formats used for the research questions were as follows: for the availability of ICT devices Available (AV = 2), Not Available (NAV = 1); for the extent of ICT usage—Very High Extent (VHE = 4), High Extent (HE = 3), Low Extent (LE = 2), Very Low Extent (VLE = 1); and for

challenges of ICT usage—Strongly Agree (SA = 4), Agree (A = 3), Disagree (D = 2), Strongly Disagree (SD = 1).

Results

Research Question One: Table 1: Percentage of the Available ICT devices for the Implementation of Primary School Curriculum in Nsukka Local Government Area, Enugu State.

S/N	ITEM	AV%	NAV%	DECISION
1.	CD-ROM	38.7	61.3	NAV
2.	FAX MACHINE	42.7	57.3	NAV
3.	LAPTOPS	38.7	61.3	NAV
4.	SCANNERS	46.0	54.0	NAV
5.	COMPUTERS	71.3	28.7	AV
6.	PROJECTORS	56.3	43.7	NAV
7.	MOBILE PHONES	77.1	22.9	AV
8.	PHOTOCOPYING MACHINE	42.0	58.0	NAV
9.	TELEVISION	38.7	61.3	NAV
10.	DIGITAL CAMERA	39.3	60.7	NAV
11.	BINDERS	43.2	56.8	NAV
12.	SMART BOARDS	26.7	73.3	NAV
13.	PUBLIC ADDRESS SYSTEM	77.1	22.9	AV
14.	MICRO PHONES	65.3	34.7	AV
15	HANDSETS	38.2	61.8	NAV

Data presented in Table 1 on the available ICT devices for the implementation of primary school curriculum revealed that all the items had their percentages responses less than 50%. This implied that the researchers observed that among the ICT devices listed only the public address system, mobile phones, computers, projectors and micro phones are available. While CD Rom, Fax Machine, Laptops, Scanner, Photocopying Machine, Television, Digital camera, Binders, Smart board and Handset are not available for the implementation of primary school curriculum.

Research Question Two: Table 2: Mean and Standard Deviation on the Extent of Utilization of ICT Devices in Primary in Nsukka Local Government Area, Enugu State.

S/N	ITEM	X	SD	DECISION
1.	CD-ROM	2.19	.92	LE
2.	FAX MACHINE	2.13	1.09	LE
3.	LAPTOPS	2.25	1.14	LE
4.	SCANNERS	2.18	1.13	LE
5.	COMPUTERS	2.38	1.06	LE
6.	PROJECTORS	1.23	.69	LE
7.	MOBILE PHONES	2.23	.86	LE
8.	PHOTOCOPYING MACHINE	1.73	.69	LE
9.	TELEVISION	2.35	.84	LE
10.	DIGITAL CAMERA	1.98	.89	LE
11.	BINDERS	2.05	.31	LE
12.	SMART BOARDS	1.63	1.03	LE
13.	PUBLIC ADDRESS SYSTEM	1.75	1.01	LE
14.	MICRO PHONES	2.28	1.69	LE
15	HANDSETS	2.08	.36	LE
CLUSTER MEAN		2.04	.94	

The result in Table 2 shows the mean and standard deviation of respondents on the extent of utilization of ICT devices in primary school curriculum. The data revealed that the items had

their mean scores ranging from 1.23– 2.38. This showed that ICT devices are utilized low extent in the implementation of primary school curriculum

Research Question Three:

Table 3: Mean and Standard Deviation on the Challenges in using ICT Tools in Primary school curriculum in Nsukka Local Government Area, Enugu State

Table 3

S/N	STATEMENT	X	SD	DECISION
1.	Teachers’ lack of ICT knowledge	3.29	.92	Agreed
2.	Lack of ICT devices (tools) for teaching in schools	3.10	1.09	Agreed
3.	Poor funding of schools	3.25	1.24	Agreed
4.	Poor internet connection to schools	3.18	1.11	Agreed
5.	Inadequate recruitment of technical personnel to school	2.58	1.01	Agreed
6.	Epileptic power supply to schools	3.23	1.69	Agreed
Cluster Mean		3.11	1.18	

The data presented in Table 4 above revealed that the items had their mean scores ranging from 2.58 to 3.29. This shows that the respondents agreed that all the 6 items are the challenges to utilization of ICT devices in Primary school. Thus, the challenges to the utilization of ICT devices in primary schools are teachers’ lack of ICT knowledge, lack of ICT devices for teaching in school, poor funding of schools, poor internet connection to school, inadequate recruitment of technical personnel to schools and epileptic power supply to schools.

Discussions

Availability of ICT Devices for Teaching Primary School Pupils

The findings of the study revealed that only a few ICT devices, such as public address systems, mobile phones, computers, projectors, and microphones, were available for the implementation of the primary school curriculum, while others were not available. This aligns with the study of Salau (2003), who asserted that over 90% of schools in Nigeria lack ICT tools, including internet facilities, which hinders the effective implementation of technology-driven teaching. Similarly, Otemuyiwa and Onasanya (2020) found that inadequate provision of ICT tools was a major challenge affecting the teaching of entrepreneurship subjects in schools within the Federal Capital Territory (FCT), Abuja. Ezenwa (2014) also examined the availability and extent of ICT utilization for the effective management of education in public secondary schools in Ebonyi State and found that ICT devices were available but underutilized. These studies support the current findings that ICT resources are still insufficient in primary schools, limiting teachers' ability to integrate technology into instructional delivery effectively.

Extent of ICT Utilization by Teachers in Teaching Primary School Pupils

The findings of the study indicated a low extent of utilization of the available ICT tools for the implementation of the primary school curriculum. This finding is in agreement with the study of Ogele, Ishiwu, and Nwokenna (2021), who discovered that ICT tools available for implementing the senior secondary school Economics curriculum were utilized to a low extent by teachers. Similarly, a study conducted by Gaya, Bala, Auwal, and Salisu (cited in Isilebo, Ekechukwu, Chidiebere, & Eze, 2021) on the assessment of teachers’ and students’ utilization of ICT tools for teaching and learning Mathematics in Kano municipal education zone found that ICT resources were largely underutilized in secondary schools. However, contrary to the present findings, the same study revealed that in some instances, both teachers and students utilized ICT tools to a high extent for Mathematics instruction. This suggests that while ICT adoption in education is increasing in some areas, primary school teachers in Nsukka L.G.A. still struggle to integrate available ICT resources effectively in the teaching process.

Challenges of Using ICT Devices in Teaching Primary School Pupils

The findings revealed that teachers face several challenges in using ICT tools to implement the primary school curriculum. These challenges include teachers' lack of ICT knowledge, insufficient ICT devices in schools, poor funding, inadequate internet connectivity, lack of technical personnel, and erratic power supply. This finding is consistent with the study of Mlunglisi and Dominique (2014), who examined the challenges of ICT integration in South African rural secondary schools and found that, except for televisions, photocopiers, and desktop/laptop computers, ICT resources were scarce, making ICT integration difficult. The study also revealed that the lack of ICT equipment negatively impacted teachers' instructional delivery and administrative functions. Additionally, while some teachers had received ICT training, it was evident that the training had minimal or no impact on their confidence and ability to utilize ICT tools effectively in teaching. These findings reinforce the need for targeted interventions such as teacher training, improved ICT infrastructure, and enhanced funding to facilitate ICT integration in primary schools.

Educational Implications of the Study

The findings of this study have several important educational implications. Firstly, the limited availability of ICT tools in primary schools suggests the need for urgent intervention by the government and educational stakeholders to provide necessary ICT infrastructure. Without these tools, achieving effective curriculum implementation and digital literacy among pupils will remain a challenge. Secondly, the low extent of ICT utilization among teachers implies a gap in their technological skills, highlighting the necessity for continuous professional development programs, workshops, and training on ICT integration in teaching. Additionally, the challenges identified, such as inadequate funding, poor internet access, and erratic power supply, indicate systemic issues that need to be addressed to foster a conducive learning environment. The study also implies that without adequate ICT resources and proper training, the expected benefits of digital learning in primary education may not be fully realized. Therefore, education policymakers must prioritize ICT integration to enhance teaching and learning outcomes, ensuring that primary school pupils develop the necessary digital skills required for the modern educational landscape.

Contribution to Knowledge

This study contributes to knowledge by providing empirical evidence on the availability and utilization of ICT tools in the implementation of the primary school curriculum in Nsukka Local Government Area, highlighting existing gaps in ICT infrastructure. It identifies key challenges hindering the effective integration of ICT in primary education, such as lack of ICT knowledge among teachers, inadequate funding, and poor internet connectivity, which can inform policymakers in making data-driven decisions. Through comparing findings with previous studies, this research adds to the body of literature on ICT adoption in education, particularly in the Nigerian primary school context. The study also emphasizes the need for continuous professional development and ICT training for teachers, reinforcing the importance of capacity-building initiatives in improving educational outcomes. Furthermore, the findings provide a framework for stakeholders to develop policies and strategies that enhance the integration of ICT in primary education, ensuring its effective use for curriculum implementation.

Conclusion

Based on the findings of this study, it can be concluded that the availability of ICT devices for teaching in primary schools in Nsukka Local Government Area is limited, with only a few tools such as public address systems, mobile phones, computers, projectors, and microphones accessible to teachers. The extent of ICT utilization in teaching primary school pupils remains low due to inadequate access to essential digital tools. Furthermore, several challenges hinder the effective integration of ICT in the implementation of the primary school curriculum, including teachers' lack of ICT knowledge, insufficient ICT devices, poor funding, inadequate internet connectivity, lack of technical personnel, and erratic power supply. These findings

underscore the need for improved ICT infrastructure, teacher training, and better funding to enhance the use of ICT in primary education. Addressing these issues will facilitate the effective integration of technology into teaching and learning, ultimately improving educational outcomes.

Recommendations

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

1. Government and other major stakeholders in the education sector should supply schools with necessary ICT tools to facilitate effective teaching and learning.
2. Teachers should be regularly exposed to in-service training, seminars, conferences, and workshops to enhance their proficiency in using ICT tools for teaching.
3. Government should ensure a stable power supply, improve internet connectivity, and increase funding to support ICT integration in primary schools.
4. Schools should recruit and train technical personnel to provide continuous support and maintenance of ICT facilities for effective usage.
5. Education policymakers should incorporate ICT competency training into teacher education programs to equip future teachers with the necessary digital skills for classroom instruction.

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