EVALUATING ADMINISTRATIVE SUPPORT FOR ICT INTEGRATION IN NIGERIAN SCHOOLS: A SURVEY-BASED ANALYSIS OF POLICY, LEADERSHIP, AND RESOURCE ALLOCATION

Flourish Oretipe ISAAC-OLONIYO (PhD)
Department of Mathematics/Education,
College of Education,
Wesley University, Ondo, Nigeria.
Phone Nos: 08067539096, 08153599928.
ORCID iD: https//orcid.org/0009-0004-4615-3464
Email: flourishisaacoloniyo@gmail.com, flourish.isaac-oloniyo@wesleyuni.edu,ng

Abstract
With a focus on three main areas, this study examined the level of administrative support for information and communication technology (ICT) integration in Nigerian schools. Even though ICT infrastructure is becoming more prevalent in educational institutions, integration initiatives frequently fail because of inadequate administrative frameworks. Teachers and administrators in selected schools were given a standardised seven-item questionnaire as part of a descriptive survey design. The findings showed a mixed degree of support. Although the majority of respondents agreed that there are ICT policies and leadership commitment, there are still significant shortfalls in areas like professional development, finance, incentives for ICT use, and ICT coordinator visibility. The absence of strategic motivation methods, restricted training access, and budgetary restrictions were found to be the main obstacles. The results highlight the need for better leadership skills, focused resource planning, and greater policy communication. To ensure fair access and to optimise the educational benefits of ICT, especially in rural and under-resourced areas, it is imperative to strengthen these administrative aspects.

Keywords: ICT integration, Administrative Support, Policy Development, Leadership Involvement, Resource allocation.

Introduction

Educational development is possible when there are people to oversee the process of the development and its progress. Therefore, for Information and Communication Technology (ICT) integration to be successful in any school, administrative support is inevitable. ICT can be available, while the effectiveness of its usage may be poor. From experience, there have been instances where technological structures and tools were made readily available, however, the

usage strategies and maintenance of such available resources were abysmal.

In Nigeria, the adoption of ICT in education has been met with various challenges. A major obstacle is inadequate infrastructure, including insufficient computer hardware, unreliable power supply, and limited internet connectivity, particularly in rural areas. These infrastructural deficits hinder the effective implementation of ICT initiatives in schools (discipline.ng, n.d; John, 2027).

One other major challenge with ICT adoption in Nigeria, according to Gwani (2024), is infrastructure maintenance and sustainability. Limited availability of ICT service providers in rural areas further restricts accessibility, making it challenging for residents to access affordable and reliable ICT services. Even in cases where ICT infrastructure has been deployed in rural areas, the lack of maintenance and sustainability can lead to its rapid deterioration. Poor infrastructure maintenance can result from factors such as inadequate funding, insufficient technical expertise, and the absence of a proper support system.

The adoption of ICT in rural areas of Nigeria brings forth a range of opportunities, including improved access to information, agricultural transformation, e-commerce and entrepreneurship, enhanced healthcare services, financial inclusion, and skill development. Gwani (2024) posits that leveraging on ICT opportunities requires collaborative efforts from the government, private sector, and community organisations to invest in ICT infrastructure, promote digital literacy, and provide tailored programs and support. This finding supports ICT integration.

Every educational development, from implementation to execution, requires proper integration. Integration occurs when separate people or things are brought together, like the integration of students from all of the district's elementary schools at the new middle school (vocabulary.com,n.d.). Integration (combination) is an act of combining parts into a whole. ICT integration refers to the incorporation of information and communication technologies into educational practices and organisational processes to enhance teaching, learning, and operational efficiency.

Information and Communication Technology (ICT) integration in education refers to the effective use of digital tools and resources to enhance teaching, learning, and administrative processes. In contemporary education systems, ICT integration plays a pivotal role in improving access to information, promoting collaborative learning, and fostering digital literacy among students and teachers (UNESCO, 2011).

Successful ICT integration goes beyond the mere presence of technology; it requires strategic planning, pedagogical transformation, and institutional support. Teachers must be equipped with both technical skills and pedagogical competencies to utilise ICT tools effectively (Tondeur et al., 2017), because there exists a lack of teacher training and digital literacy (dataprojecting, 2025). High expenses for devices, software, and internet access exacerbate digital inequity (Oluwatade, 2024) and can limit financial resources and hinder the procurement of ICT integration effectiveness. Meanwhile, administrative support for ICT integration may enhance its effectiveness beyond the expected results.

The administrative support for ICT integration comprises three main components: policy, leadership and resource allocation. These administrative support components also have challenges. Policy gaps and weak implementation are challenges facing the policy components of the administrative support for ICT integration. Although Nigeria's National Policy on ICT in Education (2010) established formal frameworks around human capital, infrastructure, governance, and financing, implementation remains uneven across states and schools (AcademicPublication, 2025; Shagari, 2019). Secondary education governance often suffers from fragmented strategies and poor alignment between national policy and local realities, leading to implementation gaps and inconsistent ICT uptake.

Leadership competence and stability are another aspect of ICT integration. Obiora & Uche (2024) opined that effective ICT integration requires school leaders skilled in strategic planning, communication, IT management, and data-driven decision-making. However, many leaders are appointed as political favours at the expense of competence or skilled training, resulting in administrative instability and weak ICT governance.

Inadequate Resource Allocation is another major challenge facing the administrative support for ICT integration. According to Suleiman (2024), funding for ICT is chronically low. Although Nigeria budgeted N1.59 trillion (~5.5%) for education in 2024 and proposed ~7% for 2025, this still falls below UNESCO's recommendation of 15%. Tertiary institutions receive funding for only 44–60% of their operational needs, with capital and ICT expenditures squeezed by personnel costs and diesel generator costs. At the primary and secondary levels, insufficient ICT-specific funding makes it difficult to maintain hardware, procure software, or expand connectivity. Despite these challenges, there have been concerted efforts to promote ICT in Nigerian schools. Initiatives such as the provision of laptops and teacher training programs aim to bridge the digital divide and enhance educational outcomes. However, the success of these initiatives largely depends on robust administrative support at the school level.

Statement of the Problem

The successful integration of ICT in Nigerian schools depends heavily on strong administrative support, including effective policy implementation, leadership, and resource allocation. Despite the provision of technological tools and infrastructure, many ICT initiatives fail due to poor maintenance, inadequate usage strategies, and weak oversight. Challenges such as insufficient infrastructure, unreliable power supply, and limited internet access - especially in rural areas - are compounded by gaps in administrative support.

The integration of Information and Communication Technology (ICT) into Nigerian schools has been a focal point of educational reforms aimed at enhancing teaching and learning processes. However, the effectiveness of ICT integration is significantly influenced by administrative support, encompassing policy formulation, leadership commitment, resource allocation and management. Consequently, despite efforts like laptop distributions and teacher training, the full potential of ICT

integration in Nigerian education remains unrealised without enhanced administrative support.

This study, therefore, aimed to assess the current state of administrative support for ICT integration in Nigerian schools, focusing on policy development, leadership engagement, and resource allocation. By identifying strengths and areas for improvement, the research seeks to provide insights that can inform strategies to enhance ICT integration in the Nigerian educational system.

Objective of the Study

Specifically, the study focuses on the three core components of administrative support for ICT integration: policy, leadership, and resource allocation. These components are essential for the effective implementation and sustainability of ICT in education. Therefore, the study assessed the level of administrative support - specifically in terms of policy, leadership, and resource allocation - provided for ICT integration in Nigerian schools.

Research Question of the Study

What is the current state of administrative support for ICT integration in Nigerian schools as reflected through policy, leadership, and resource allocation?

Literature Review

The review of literature for this study focused on ICT integration in education from both Nigerian and Global perspectives. It examined the role of administrative leadership in ICT integration, policy frameworks for implementation, challenges, resource allocation, and ICT adoption. Information and Communication Technology (ICT) integration in education remains a pivotal driver for modernising teaching and learning processes worldwide (OECD, 2021). Zhao & Frank (2020); discovered that ICT adoption enhances student engagement, fosters critical thinking, and provides access to global knowledge resources. In Nigeria, the government has recognised the importance of ICT in education, embedding it in national policies aimed at achieving quality and inclusive education (Federal Ministry of Education, 2019). Despite these efforts, studies show that the effective integration of ICT in Nigerian schools continues to face significant hurdles, including infrastructural deficits, insufficient training, and limited access to digital tools (Adedoyin & Soykan, 2020; Ibrahim et al., 2021).

Administrative leadership plays a crucial role in ICT integration. To create an atmosphere that is favourable to the use of ICT, school leadership is crucial. Akinyemi et al (2020) declared that effective administrators encourage the use of technology. Ifenthaler & Schweinbenz (2019) found that commitment and leadership style are important indicators of successful ICT integration. According to various research, administrative assistance in Nigeria is still uneven, mainly as a result of conflicting agendas and school administrators' lack of ICT expertise (Olumide et al., 2022; Eze et al., 2023). This administrative gap hampers teachers' motivation and capacity to integrate ICT into instructional practices.

Another important aspect is the policy frameworks for implementation and challenges. National ICT education policies provide a blueprint for integrating technology in schools. Nigeria's National ICT Policy for Education

(2019) advocates for infrastructural development, capacity building, and curriculum integration of ICT. However, multiple empirical studies reveal a persistent gap between policy design and implementation (Onwuegbuzie & Udeh, 2020; Eze et al., 2023). Factors such as inadequate monitoring, poor stakeholder engagement, and lack of clarity in policy guidelines contribute to weak policy adherence at the school level (Adebayo & Bello, 2021). This disconnect restricts administrators' capacity for implementation and poses challenges. National ICT education policies provide a blueprint for integrating technology in schools. Nigeria's National ICT Policy for Education (2019) advocates for infrastructural development, capacity building, and curriculum integration of ICT.

However, multiple empirical studies reveal a persistent gap between policy design and implementation (Onwuegbuzie & Udeh, 2020; Eze et al., 2023). Factors such as inadequate monitoring, poor stakeholder engagement, and lack of clarity in policy guidelines contribute to weak policy adherence at the school level (Adebayo & Bello, 2021). This disconnect restricts administrators' capacity to champion ICT initiatives effectively. Concerning resource allocation and ICT adoption, adequate allocation of financial, human, and technical resources is fundamental for ICT integration in schools (Mueller et al., 2020). Many schools in Nigeria lack basic infrastructure like electricity and internet connectivity, making financial limitations one of the most frequently mentioned obstacles to ICT adoption (Ojo & Afolabi, 2022).

According to research, teachers' confidence and the frequency of ICT use in the classroom are positively impacted by the planned and equal distribution of resources (Ajayi & Adewale, 2021). In contrast, Eze et al. (2023) found that rural and under-resourced schools are disproportionately impacted by resource inadequacy, which exacerbates educational disparities. There are three core elements of administrative support for ICT integration: Policy Implementation (the existence and awareness of formal ICT policies at the school level); Leadership Engagement (the active role of school leadership in promoting and sustaining ICT use in teaching and learning); and Resource Allocation (the availability of funds and resources allocated explicitly for ICT procurement, maintenance, and teacher capacity-building). These core elements require more concentration (in the area of more research studies) for more effective performances.

Methodology

This study employed a descriptive survey research design to evaluate the level of administrative support for ICT integration in Nigerian schools, with a specific focus on the components of policy, leadership, and resource allocation. The descriptive survey design facilitated the systematic collection of quantitative data to assess how schools currently support ICT integration administratively. It was particularly appropriate for capturing non-manipulative, naturally occurring school-level realities, as perceived by educators and administrators. The study concentrated on three core elements of administrative support for ICT

integration: Policy Implementation, Leadership Engagement and Resource Allocation.

The study targeted teachers and school administrators in selected secondary schools across Ondo State, Nigeria, for its population. These participants were chosen based on their direct involvement in educational administration and ICT usage. A non-probability sampling method (convenience and purposive sampling) was used to select 22 respondents who had access to and could complete an online questionnaire. This ensured the inclusion of individuals with insight into both the administrative and instructional dimensions of ICT integration.

Data were collected using a 7-item structured questionnaire developed by the researcher. The instrument was designed to capture participants' perceptions across the three focus areas: policy, leadership, and resource allocation. Each item was measured on a 5-point Likert rating scale, ranging from:
1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

The questionnaire items included statements such as: "Our school has a formal ICT policy in place., "Adequate budget is allocated for ICT infrastructure and maintenance," "School leadership actively promotes ICT integration in teaching," "Adequate budget is allocated for ICT infrastructure and maintenance," "The management provides incentives for innovative ICT use in classrooms," "Teachers are supported in attending external ICT training or conferences," and "There is an appointed ICT coordinator or team in the school." The survey instrument was validated by a panel of ICT and education policy experts to ensure content validity, and a pilot study was conducted to test the reliability, resulting in a satisfactory Parallel Alpha score of 0.79.

The questionnaire was administered electronically using Google Forms to ensure broad reach and ease of access across Nigeria's diverse geographical regions. Respondents received a brief introduction explaining the purpose of the study, with assurances of anonymity, voluntary participation, and confidentiality. Data were collected over three weeks. The collected responses were coded and analysed using descriptive statistical methods through:

SPSS (Statistical Package for the Social Sciences) for frequency distributions and percentage scores. Google Sheets to generate supporting visual aids (tables and charts). This approach was used to identify patterns and trends regarding administrative support for ICT integration, based on respondents' perceptions across the seven items. The Ethical Considerations were observed through Informed Consent, Confidentiality and Data Security, which means all electronic data were stored in a password-protected system accessible only to the research team.

Results of Analyses

The results reflect various aspects of administrative support for ICT integration in the school. Each item's results (in Table 1) and interpretations are hereby presented:

Table 1 shows the summary of responses for the Administrative Support for ICT Integration

Table 1: Summary Table of Responses for the Administrative Support for ICT Integration

Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our school has a formal ICT policy in place	11.1%	0%	33.3%	44.4%	11.1%
2. School leadership actively promotes ICT integration in teaching	11.1%	0%	22.2%	22.2%	44.4%
3. ICT-related professional development is regularly organised for teachers	0%	11.1%	44.4%	44.4%	0%
4. Adequate budget is allocated for ICT infrastructure and maintenance	22.2%	11.1%	33.3%	22.2%	11.1%
5. The management provides incentives for innovative ICT use in classrooms	44.4%	22.2%	11.1%	22.2%	0%
6. Teachers are supported in attending external ICT training or conferences	11.1%	22.2%	44.4%	22.2%	0%
7. There is an appointed ICT coordinator or team in the school	11.1%	11.1%	44.4%	22.2%	11.1%

Discussion

Fifty-five-point five per cent (55.5%) of respondents agreed or strongly agreed that a formal ICT policy is in place (Item 1). Nonetheless, 11.1% strongly disagreed and 33.3% were ambivalent, indicating that although there may be a policy in place, there may not be enough knowledge or communication about it. According to the interpretation, although certain administrative efforts have been made to create official ICT structures, it is possible that staff members are not completely aware of or involved with the policy. A study conducted in Lagos revealed that although principals had favourable opinions about ICT policy, their duties were unclear, and they did not communicate well, which hindered its successful implementation (Shobowale, 2023). This suggests a possible lack of understanding or clarity on the implementation or content of the policy.

According to the Leadership Promotion of ICT from Item 2 analysis, 66.6% of respondents strongly agree or agree that school leadership encourages the integration of ICT. Just 11.1% of respondents strongly disagreed,

and very few were neutral. Given that a multi-country analysis of OECD's TALIS data revealed that organisational climate and school leadership have a significant impact on classroom ICT use (Gil-Flores et al., 2024), it can be concluded that leadership is actively involved in promoting ICT adoption. This suggests a strong top-down encouragement for ICT adoption and a strong administrative commitment. This supports the research conducted in Ghana that found a discrepancy between policy expectations and real classroom practices, demonstrating the need for leadership motivation in putting ICT intentions into action (Abedi, 2024).

According to Item 3's Professional Development for ICT, 44.4% of respondents agreed and 44.4% disagreed that regular training relating to ICT is organised. Only 11.1 per cent disagreed. This suggests that, despite some indications of professional growth, the high percentage of neutral responses suggests inconsistent or ineffective training. This suggests that although training is provided, it may not be consistent or effective enough. According to a systematic review from Tanzania (Msambwa & Daniel, 2024), structured capacity-building for teachers and students is crucial for effective ICT integration. This finding highlights the need for more regular and practical teacher training.

The fourth item was the ICT Budget Allocation. Of those surveyed, 33.3% disagree or strongly disagree, 33.3% are neutral, and just 33.3% agree or strongly agree that an adequate budget is allotted. This suggests that ICT financing was viewed as inconsistent or insufficient, which could have limited the effectiveness of integration initiatives. It also shows that funds for ICT are either misallocated or considered insufficient. According to Mokoena & Simelane-Mnisi (2024), a major obstacle in Nigerian public schools is the lack of ICT funding, which is caused by low national budgets and inadequate infrastructure. Shobowale's global analysis from 2023 provided additional evidence that inadequate resource allocation jeopardises the infrastructural support required for ICT use.

Only 22.2% of respondents agreed, with no strong agreement, and 66.6% disapproved or strongly disagreed with the incentives for ICT use (Item 5). These comments were the most negative. This indicates a glaring lack of motivating support, suggesting that teachers may not value their creative ICT activities without incentives. It also means that the absence of incentives could demotivate teachers from embracing innovative ICT techniques. The adoption of innovative ICT practices is greatly influenced by teacher motivation and incentives, according to a global systematic review (Akram, 2022). This suggests that low incentive scores in this study supports this findings, showing how the lack of rewards can stifle enthusiasm and creativity.

With only 22.2% agreeing, 33.3% disagreeing, and 44.4% remaining neutral, the analysis of Support for External ICT Training (Item 6) indicated that support for external opportunities appears weak or unclear, with neutral responses indicating that teachers may not be aware of or offered these opportunities, as well as inconsistent or inadequate support for teachers seeking external ICT learning opportunities may be an obstacle.

ICT Coordinator or Team (Item 7). Only 33.3% agree or strongly agree that an ICT team was appointed, while 44.4% remain neutral, with

22.2% disagreeing. It implies that the role and visibility of ICT coordination within the school are not well communicated or established, potentially hindering implementation efforts. It also means that the presence and visibility of an ICT team are unclear to many staff, which may affect ICT coordination efforts.

Mokoena & Simelane-Mnisi's (2024) study indicated that clarity about ICT leadership roles relates to effective policy execution, and the global 2024 review by Gil-Flores et al. (2024) shows a mixed picture of administrative support for ICT integration, with the strengths being that the leadership shows strong intent to promote ICT and that a formal policy is acknowledged. The weaknesses were found to be inadequate or unclear budget allocation, a lack of structured incentives for innovative ICT use, poor visibility of ICT coordinators, and limited support for external training. This finding highlights the importance of school-level organisational support, including coordination, as many staff members are still unaware that ICT teams even exist.

Conclusion

This study has found that the majority of respondents acknowledged the existence of a formal ICT policy and active leadership support, suggesting that many schools have made foundational steps to integrate ICT, encouraging the use of ICT. However, several critical challenges such as budget allocation for ICT is perceived as insufficient or inconsistent, which may hinder the procurement, maintenance, and expansion of ICT infrastructure. The lack of incentives for innovative ICT use emerged as a significant weakness, with many respondents expressing dissatisfaction. Additionally, support for external ICT training is limited or poorly communicated, and the role of ICT coordinators is either unclear or underdeveloped in many schools. Although administrative desire to facilitate ICT integration is evident, especially in leadership and policy, more robust and conspicuous measures in budgeting, motivation, and organised ICT coordination are required. To fully profit from ICT in Nigerian education and create a digitally competent teaching and learning environment, these gaps must be filled.

Recommendations:

1. Enhance ICT policy implementation and communication.
2. Make the ICT policies and team roles more transparent and communicative.
3. Increase the amount of money allotted to ICT infrastructure.
4. Provide explicit rewards to educators who use ICT in the classroom in innovative ways.
5. Establish and openly oversee a specific ICT budget.
6. Establish incentive schemes to recognise and reward creative ICT usage.
7. To enhance assistance and coordination, designate and promote an ICT team or coordinator.
8. For personnel growth, provide and prominently advertise external ICT training possibilities.
9. Provide better assistance for outside training and more organised professional growth.

References

Abedi, E. A. (2024). Tensions between technology integration practices of teachers and ICT In education policy expectations: implications for change in teacher knowledge, beliefs and teaching practices. 11, 1215-1234, https://link.springer.com/article/10.1007/

AcademicPublication. (2025). Reforming education in nigeria: Dr. Stella Anumnu's Approach. https://africadailynews.net/2025/02/12/

Adebayo, F. A., & Bello, R. O. (2021). Policy implementation and ICT integration in Nigeria secondary schools: Issues and prospects. *Journal of Educational Policy and Leadership*, 9(2), 56–68.

Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*, *29*(1), 1–13. https://doi.org/10.1080/10494820.2020.1813180

Ajayi, K., & Adewale, T. (2021). Resource allocation and its influence on ICT usage among secondary school teachers in Nigeria. *International Journal of Education and Development Using ICT*, *17*(3), 112–130.

Akinyemi, S. O., Oladipo, S. E., & Olatunji, S. O. (2020). Leadership practices and ICT integration in Nigerian secondary schools. *Journal of Educational Administration*, *58*(5), 546-561.

Akram, H., Abdelrady , A. H., Al-Adwan, A. S. & Ramzan, M. (2022). Teachers' Perceptions of Technology Integration in Teaching-Learning Practices: A Systematic Review.

National Library of Medicine. https://pmc.ncbi.nlm.nih.gov/articles/PMC9207921/dataprojectng. (2025). Initiatives and challenges in information and communication in secondary schools in Lagos State. https://dataprojectng.com/project/12483/

Discipline.ng. (n.d). Impact of ICT on nigerian educational system. https://disciplines.ng/ict-impact-on-educational-system/

Eze, S. C., Chinedu-Eze, V. C., & Bello, A. O. (2023). Bridging the ICT policy-practice gap in Nigerian schools: The role of school administrators. *Education and Information Technologies*, *28*(2), 1441–1462. https://doi.org/10.1007/s10639-022-11260-9

Faremi, S. J. (2023). Information and communication technology (ICT) in the service of administration and supervision in Nigeria public schools

Federal Ministry of Education. (2019). *National policy on ICT in education*. Abuja, Nigeria: Government Press.

Gil-Flores, J., Rodríguez-Santero, J. & Ortiz-de-Villate, C. (2024). Teaching practices and organisational aspects associated with the use of ICT. *Large-scale Assessments in Education, 12*(2). https://largescaleassessmentsineducation.springeropen.com/

Gwani, M. (2024). Challenges and opportunities for ICT adoption in rural areas of Nigeria https://www.hostafrica.ng/blog/technology/challenges

Ibrahim, M. Y., Tijani, A. M., & Abubakar, S. (2021). Challenges of ICT integration in Nigerian secondary schools: A systematic review. *International Journal of*

Information and Education Technology, *11*(7), 311–318.

Ifenthaler, D., & Schweinbenz, V. (2019). Leadership in digital transformation: A systematic literature review. *Journal of Educational Computing Research*, *57*(7), 1721–1745.

John, O. R. (2027). Integration of ict in nigeria education system: challenges and prospects. https://www.researchgate.net/publication/372751693

Mokoena, M. M. & Simelane-Mnisi, S. (2024). Teachers Influence on Decision-Making in the Integration of Information Communication Technology (ICT) in Public High Schools: Gauteng Province. *Journal of Public Administration and Development Alternatives*, *1*(9). https://journals.co.za/doi/full/10.55190/JPADA.2024

Msambwa, M. M. & Daniel, K. (2024). A systematic literature review on the ICT integration in teaching and learning: Lessons for an effective integration in Tanzania, European Journal of Education, Research, Development and Policy, https://onlinelibrary.wiley.com/doi/abs/10.1111/

Mueller, J., Wood, E., & Willoughby, T. (2020). Technology integration and resourcemanagement in schools: Implications for educational leadership. *Journal of School Leadership*, *30*(2), 119–139.

Obiora, A. V. & Uche, A. O. (2024). Adopting information and communication technologies for effective school leadership in Nigeria. *Social Science Research*, *10*(2):34 – 49. https://www.researchgate.net/publication/385713916

OECD. (2021). *Trends shaping education 2021*. OECD Publishing. https://doi.org/10.1787/trends_edu-2021-en

Ojo, T. A., & Afolabi, O. O. (2022). Internet connectivity and ICT infrastructure challenges in Nigerian secondary schools: Impact on teaching and learning. *Journal of Educational Technology Systems*, *51*(4), 521–537.

Olumide, A. A., Ogunlade, T. O., & Taiwo, F. A. (2022). Exploring the leadership barriers to ICT adoption in Nigerian schools. *Education and Information Technologies*, *27*(1), 45–63.

Oluwatade, P. (2024). The Impact of Technology on Education in Nigeria: Benefits and Challenges. https://www.edusko.com/blog/

Onwuegbuzie, A. J., & Udeh, C. (2020). The gap between ICT policy and practice in Nigerian schools: An exploratory study. *Journal of Education and Technology*, *4*(1), 31–42.

Shagari, B. (2029). National implementation guidelines for ICT in education 2019.https://www.scribd.com/document/486279959/

Shobowale, A. K. (2023). School principals' implementation of Information and Communication Technology Policy in Lagos State secondary schools, Nigeria.

University of Pretoria. https://repository.up.ac.za/server/api/core/bitstreams

Suleiman, Q. (2024). Review: Major events, reforms that shaped Nigeria's education

sector. https://www.premiumimesng.com/education/764323-2024

Tondeur, J., van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research and Development*, *65*(3), 555–575. https://doi.org/10.1007/s11423-016-9481-2

UNESCO. (2011). *ICT* in Education: A Curriculum for Schools and Programme of Teacher Development. UNESCO. vocabulary.com. (n.d.). https://www.vocabulary.com/dictionary/integration

Zhao, Y., & Frank, K. A. (2020). Factors affecting technology use in schools: An ecological perspective. *American Educational Research Journal*, *57*(4), 1731–1767.