



Addressing the Out-of-School Syndrome in Nigeria: Leveraging Technology and Vocational Education for Youth Empowerment, National Development and Security

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Abstract

This study examines the out-of-school syndrome in Nigeria, a multifaceted crisis affecting human capital development, economic growth, social cohesion, and national security. Driven by poverty, insecurity, socio-cultural barriers, gender inequality, and infrastructural deficits, the phenomenon leaves millions of children and youth marginalized and vulnerable. The research explores technology-enabled learning and vocational education as viable interventions to enhance access, equip youth with market-relevant skills, and foster empowerment. Findings indicate that digital platforms, mobile learning initiatives, and skills-based programs can bridge educational gaps, promote economic self-sufficiency, and support social integration. The study further highlights the importance of a coordinated, multi-stakeholder implementation framework, adequate financing, and robust monitoring and evaluation to ensure sustainability and impact. Recommendations include expanding technology-driven education, aligning vocational programs with labour market needs, strengthening certification systems, and integrating peace building and gender-sensitive approaches. The study underscores that holistic, evidence-based strategies are essential to reintegrate out-of-school youth, promote national development, and enhance security.

Keywords: Out-of-School Syndrome, Technology and Vocational Education, Youth Empowerment, National Development, Security

INTRODUCTION

The out - of - school syndrome in Nigeria represents not merely an educational shortfall but a systemic crisis with deep social, economic and security implications. Nigeria accounts for one of the largest proportions of out-of-school children globally, with estimates well over 15 million

youths excluded from formal learning opportunities, denying them basic literacy, numeracy and life skills essential for personal progress and societal participation (Oloyede, 2025). This educational exclusion is driven by a highly complex mix of structural and contextual factors that include endemic poverty, cultural and gender biases, high direct and indirect costs of schooling, and especially the pervasive insecurity that has forced repeated school closures as witnessed in several northern states where violence against schools has disrupted education delivery and heightened fear among learners and families.

Out - of - school children are disproportionately concentrated in rural and

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disadvantaged urban communities where barriers to access and retention intersect with fragile livelihoods and limited state capacity to enforce inclusive education policies (Oyekan et al., 2023). These children are not only excluded from academic learning; they are systematically shut out of acquiring skills that could improve their employability and social integration. The consequences reach far beyond individual deprivation: high numbers of uneducated and unemployable youth contribute to national under productivity, widen socio-economic inequalities, and intensify youth restiveness, factors that feed into crime, insurgency and general insecurity (Ikiyei et al., 2022). In contexts where schooling fails to provide economic pathways, many youths resort to informal survival strategies, including criminal networks and predatory labour markets, undermining both community safety and national development agendas.

Recent scholarly work highlights that conventional schooling alone cannot resolve the out - of - school challenge unless it is complemented by innovative, flexible delivery models that expand access and respond to the realities of excluded populations. Research on digital literacy initiatives in Nigeria shows that mobile and technology - enabled learning platforms can significantly enhance educational accessibility, critical thinking and cognitive growth among out-of-school learners especially where traditional infrastructure is weak (Oloyede, 2025). This body of work underscores how technology can reduce physical barriers to learning, extend content reach, and create alternative pathways for basic education attainment.

Equally, the literature on vocational education underscores its potential to transform the lives of marginalized youth by equipping them with employable skills. Technical and Vocational Education and Training (TVET) is widely acknowledged as a catalyst for job creation, economic empowerment and national development in Nigeria, yet its full potential remains unrealized due to underfunding, limited integration with labour market needs, and gaps in programme structure (Bonjoru & Adamu, 2025). Studies specifically linking TVET to youth empowerment and security argue that when skill

development is aligned with market demands—covering areas such as engineering, construction, business and agriculture, it not only reduces unemployment but also mitigates the socio - economic drivers of insecurity (Mufutau et al., 2021).

In response to these insights and the scale of the crisis, policy efforts have begun to prioritise technology and vocational training as complementary solutions. The Federal Government's Nigerian Education Sector Renewal Initiative (NESRI) explicitly integrates out - of - school children, TVET, STEMM and digitalization as core pillars of education reform, with substantial funding earmarked to equip hundreds of thousands of youths with technical, vocational and digital competencies over the coming years (NESRI official announcements, 2025). This policy shift reflects growing recognition that simply increasing school enrolment without addressing skill gaps, learning relevance and access barriers will not meaningfully alter the long - term trajectory of youth marginalization.

Building on these scholarly and policy foundations, this paper argues that tackling Nigeria's out - of - school syndrome demands a dual strategy: leveraging technology to broaden inclusive learning opportunities and embedding vocational education as a mainstream pathway for youth empowerment. This approach does not replace the imperative for quality formal education, but it expands the ecosystem through which Nigerian children and youths can develop the knowledge, practical skills and resilience needed for economic participation, social stability and national security. It further emphasizes that without integrating education with labour market realities and enabling flexible learning options that reach the unreached, the out - of - school syndrome will continue to hinder efforts towards sustainable development and human capital growth.

UNDERSTANDING THE OUT-OF-SCHOOL SYNDROME IN NIGERIA

Scale and Scope of the Crisis

The out - of - school syndrome in Nigeria reflects one of the gravest educational crises globally, characterized by unprecedented numbers of children denied access to basic education. Contemporary assessments indicate that Nigeria has one of the largest out-of-school populations in the world, with millions of children excluded from formal learning and foundational skill development. Approximately 18.3 million Nigerian children were out of school in 2024, a figure that underscores the intensity and persistence of this crisis and places Nigeria at the top of global rankings for out - of - school children (UNICEF, 2024; Oloyede, 2025).

This staggering figure includes about 10.2 million children at the primary level and an additional 8.1 million at the junior secondary level, indicating that the challenge spans multiple educational stages rather than being confined to one level of schooling (Oyekan et al., 2023). Only around 63 per cent of primary school-age children attend school regularly, revealing a substantial gap between enrolment figures and consistent attendance, which directly affects learning outcomes and student retention (Federal Ministry of Education, 2023). At the transition point from primary to junior secondary, only an estimated 84 per cent of learners move forward successfully, meaning that educational discontinuity is a significant factor in Nigeria's systemic dropout problem (Ndagi & Tyabo, 2013).

These national figures mask deep regional disparities, with children in northern Nigeria disproportionately affected. The North-West and North - East regions have the highest concentrations of out-of-school children, driven by a combination of poverty, insecurity, and structural neglect of educational infrastructure (Ikiyei et al., 2022; DW, 2023). In conflict-affected areas such as Borno, Adamawa, and Yobe, up to 56 per cent of displaced children do not attend school, and many communities struggle with severe shortages of qualified

teachers and functional schooling facilities (UNICEF, 2024).

Compounding these regional inequalities are broader socio-demographic factors, such as gender bias, child labour, household poverty, and cultural norms that limit girls' education. Girls, children with disabilities, those from the poorest households, and those living in remote or emergency-affected areas are significantly more likely to be out of school than their peers, further entrenching cycles of disadvantage and exclusion (UNICEF, 2024). The scale and scope of Nigeria's out-of-school syndrome reflect not only gaps in access but also profound systemic weaknesses in retention, transition, and quality of learning. Low school attendance, poor infrastructure, insufficient teaching capacity, and the persistent threat of insecurity collectively inhibit the education system's ability to provide continuous, equitable, and meaningful learning experiences for all children. This leaves millions of young Nigerians at risk of long-term socio-economic marginalisation and increased vulnerability to social instability (Mufutau et al., 2021; Oyekan et al., 2023).

Contributing Factors

The out - of - school syndrome in Nigeria stems from a complex interplay of structural, socio-economic and contextual variables that act as both root causes and reinforcing mechanisms of educational exclusion. These factors include economic barriers, insecurity and conflict, socio-cultural norms, gender inequalities, and weaknesses in education infrastructure and financing.

Economic Barriers

Pervasive poverty remains one of the strongest predictors of children being out of school in Nigeria. Households with limited financial resources are often unable to absorb direct and indirect education costs such as uniforms, examination fees, transportation and learning materials, despite formal basic education being officially "free" (World Bank, 2022). Research shows that children from the poorest wealth quintiles are significantly more likely to be out of school than those from affluent households, reflecting how economic deprivation

directly constrains education participation (Oyekan et al., 2023). Moreover, children from impoverished families are often pulled into income - generating activities such as trading, farming or informal labour to support household survival, further reducing school attendance and retention (Chukwu, 2023).

Insecurity and Conflict

Widespread insecurity and violent conflict have systematically disrupted schooling in many parts of Nigeria, particularly in the North-East and North - West regions. Attacks on schools, abductions of students and threats to teachers have created environments where schooling is perceived as dangerous, prompting closures and displacements (Ikiyei et al., 2022). The Boko Haram insurgency, banditry and communal clashes have not only destroyed educational infrastructure but have also caused massive internal displacement, which correlates strongly with increased out - of - school rates among affected communities (UNICEF, 2024).

Gender Inequality and Socio-Cultural Norms

Gender disparities in schooling persist, especially in northern states where cultural norms and patriarchal traditions prioritize early marriage and domestic labour for girls over formal education (Chukwu, 2023). Girls in low-income and rural communities are disproportionately affected by these norms, limiting their access to schooling and increasing dropout rates compared to boys (Mufutau et al., 2021). Gender-biased attitudes toward girls' education are compounded by safety concerns during travel to and from school, further discouraging female enrolment and attendance (Chukwu, 2023).

Infrastructural Deficits and Underfunding

Chronic underfunding of education has resulted in severe infrastructural deficits that undermine learning environments and service delivery. Nigeria's education budget estimated at about 7.2 per cent of the national budget in 2024 remains well below the UNESCO-recommended benchmark of 15–20 per cent, limiting investments in classrooms, sanitation facilities, textbooks and teaching aids (Federal Ministry of

Finance, 2024; UNESCO, 2021). The shortage of qualified teachers, inadequate school buildings and insufficient learning resources disproportionately affect rural and low - income urban communities, dissuading enrolment and retention and contributing to the out-of-school phenomenon (Oyekan et al., 2023).

Systemic Policy Shortfalls

Weak implementation of education policies and poor coordination across federal, state and local levels have also hindered effective responses to out - of - school challenges. While policies exist to promote inclusive education, gaps in execution, monitoring and targeted interventions for vulnerable populations mean that many children remain unreached by formal education programmes (Ndagi & Tyabo, 2013). Fragmented data systems and insufficient engagement with local communities further weaken efforts to identify, track, and support out -of-school children, reducing the responsiveness of educational planning (Oloyede, 2025). Collectively, these factors create an environment where educational exclusion becomes normalized rather than exceptional, reinforcing intergenerational cycles of poverty and limiting opportunities for human capital development. Without addressing this multidimensionality particularly the economic, socio - cultural and systemic barriers, the out-of-school syndrome will continue to undermine national aspirations for equitable education, social stability and sustainable development.

Impacts and Consequences

The out-of-school syndrome in Nigeria produces multidimensional consequences that extend beyond the education sector and significantly affect social cohesion, economic growth, and national security. The impacts manifest across educational, social, economic, and security domains.

Educational Impacts

Educationally, out-of-school children experience severe learning gaps that hinder cognitive development, literacy, and numeracy skills, reducing their ability to engage meaningfully in future educational or vocational

pursuits (Adeyemi, 2023; Oloyede, 2025). Research indicates that prolonged absence from school leads to reduced attainment of foundational competencies, making it difficult for affected children to re-integrate into formal learning or access tertiary education (Oyekan, Ayorinde & Adenuga, 2023). These deficits contribute to intergenerational cycles of low educational achievement, particularly in regions where school attendance is already low.

Social Impacts

Socially, the syndrome exacerbates inequalities and exclusion, disproportionately affecting girls, children with disabilities, and those from socioeconomically disadvantaged households (UNICEF, 2024). Girls are particularly vulnerable due to cultural norms that prioritize domestic responsibilities or early marriage over schooling, limiting their social mobility and reinforcing gender disparities in education and employment (Mufutau et al., 2021). Communities with high concentrations of out-of-school children often experience weakened social cohesion, as these children are less likely to participate in civic activities, community development, or structured peer interactions that reinforce social norms and responsibility (Ikiyei, Eze & Abubakar, 2022).

Economic Impacts

Economically, the exclusion of millions of Nigerian children from schooling severely constrains human capital formation, reducing the quality and size of the future labour force. Households with out-of-school children also experience reduced earning potential, as children unable to access education are often confined to informal, low-wage, or exploitative labour (Chukwu, 2023). This has a ripple effect on national development, as a less skilled workforce cannot meet the demands of emerging industries or participate effectively in technology-driven sectors.

Security Impacts

From a security perspective, the out-of-school syndrome creates a vulnerable youth population susceptible to recruitment by extremist groups, criminal networks, and insurgent organisations. Studies in northern

Nigeria reveal that regions with high out-of-school rates overlap significantly with areas of Boko Haram activity, banditry, and communal conflict (Eke, 2023; UNICEF, 2024). Lack of formal education, vocational skills, and meaningful economic opportunities leaves youth with limited alternatives, perpetuating cycles of violence, social unrest, and instability. Moreover, the social marginalisation associated with exclusion can fuel resentment, radicalisation, and intergenerational conflict (Mufutau et al., 2021; Ikiyei, Eze & Abubakar, 2022).

Psychosocial Impacts

Beyond tangible educational and economic consequences, out-of-school children are at risk of psychosocial challenges, including low self-esteem, social isolation, and limited resilience to life stressors (Adeyemi, 2023). These effects hinder personal development and reduce the likelihood of achieving long-term social and economic mobility, further entrenching cycles of disadvantage. Collectively, these consequences highlight that the out-of-school syndrome is not a purely educational problem but a national crisis with far-reaching societal, economic, and security implications. Addressing this phenomenon requires integrated strategies that combine inclusive educational policies, technology-enabled learning, vocational training, and social protection to mitigate both immediate and long-term effects on individuals and society.

TECHNOLOGY-ENABLED SOLUTIONS FOR EDUCATIONAL ACCESS

The strategic deployment of technology-enabled learning offers a transformative opportunity to address Nigeria's out-of-school crisis by bridging gaps in educational access and quality. Digital learning platforms can deliver standardized curriculum content to remote and underserved areas, supplement traditional instruction during disruptions, and provide alternative educational pathways for out-of-school youth (Nwosu, 2024). Mobile learning initiatives have shown particular promise, given that approximately 75 per cent of Nigerian households now have access to mobile devices, including in rural regions, which provides a

scalable platform for content delivery and interactive learning (NCC, 2023). These platforms allow learners to engage with educational materials at their own pace, track progress through digital assessments, and access supplementary resources that enhance comprehension and skills acquisition.

However, the effectiveness of technology-enabled education depends on addressing fundamental infrastructure and connectivity challenges. Nigeria's educational technology initiatives require a phased implementation approach that prioritizes mobile-first solutions, leveraging the country's extensive mobile network coverage and incorporating offline functionality through preloaded educational content. Community-based access points equipped with solar-powered charging stations can further mitigate challenges associated with unreliable electricity supply, ensuring that learners in remote areas can participate consistently in digital learning programs (Adebayo, 2024). Public-private partnerships are critical to reducing infrastructure costs and accelerating deployment. The collaboration between the Universal Basic Education Commission and telecommunications companies in establishing digital learning centers provides a practical example of how joint initiatives can expand reach, improve access, and enhance resource efficiency (UBEC, 2023).

Despite these opportunities, effective implementation of technology-enabled solutions faces significant technical, socioeconomic, and institutional barriers. Technological proficiency among educators and students varies considerably across regions, necessitating comprehensive training programs that build digital skills and pedagogical competence for online and blended learning modalities (Oladipo, 2023). The financial burden of acquiring devices, data plans, and maintenance remains a significant constraint for economically disadvantaged households, highlighting the need for targeted subsidy programs or community-shared resources. Furthermore, cybersecurity, digital literacy, and online safety must be integral components of technology-driven educational interventions to protect vulnerable learners from exploitation, misinformation, and data breaches (Chukwuma, 2024). Addressing these barriers through

carefully planned policy frameworks, capacity building, and stakeholder collaboration is essential to ensure that digital learning initiatives reach their full potential in providing inclusive, equitable, and quality education for out-of-school youth.

Vocational Education and Skills Development for Youth Empowerment

Vocational education represents a critical pathway for engaging out-of-school youth, particularly those who have surpassed the traditional school-going age and require accelerated entry into productive employment. Effective vocational programs must be closely aligned with local economic opportunities and labor market demands to ensure that acquired skills translate into employable competencies (Bakare, 2023). The integration of entrepreneurship training alongside technical skills equips youth to create their own employment opportunities, fostering economic self-sufficiency while contributing to community development. Furthermore, vocational programs that incorporate education on conflict resolution, human rights, and civic engagement equip young people with the knowledge and skills to advocate for peace and security, reinforcing their roles as active, responsible members of society (Eze, 2024).

Beyond the economic dimension, vocational education plays a pivotal role in youth socialization, civic engagement, and psychological well-being. For marginalized youth, particularly those living in conflict-affected areas, participation in vocational training programs provides a protective environment that reduces vulnerability to radicalization, criminal exploitation, and social marginalization (Abdullahi, 2023). The structured routines of skills acquisition, combined with the sense of purpose derived from productive engagement and the social connections formed with peers and mentors, contribute to positive identity formation and social integration. Programs that also incorporate mental health support and trauma healing enable young individuals to develop resilience and the capacity to become active participants in peacebuilding and community cohesion (Okon, 2024).

A major barrier confronting out-of-school youth in non-formal education is the lack of recognized certification that facilitates access to formal employment or entrepreneurship opportunities. To overcome this challenge, vocational training programs must embed credentialing mechanisms that are acknowledged in both formal and informal labor markets (Yusuf, 2023). This necessitates close collaboration among training providers, industry associations, and government accreditation bodies to establish standardized competency frameworks and certification systems. The National Board for Technical Education has made notable progress in this regard through the development of the Nigerian Skills Qualifications Framework, which provides clear pathways for skills recognition and certification, thereby enhancing the economic mobility and employability of program participants (NBTE, 2024).

AN INTEGRATED IMPLEMENTATION FRAMEWORK

Effectively addressing Nigeria's out-of-school syndrome requires a comprehensive, coordinated framework that integrates multiple strategies, stakeholders, and resources. A well-structured framework must combine the strengths of government agencies, educational institutions, the private sector, civil society, and international partners to create a synergistic ecosystem that supports access to education, vocational training, and youth empowerment initiatives. Collaboration among diverse actors ensures that programs leverage the comparative advantages of each stakeholder, amplifying impact, expanding reach, and providing platforms for youth to contribute their ideas and solutions (Adewumi, 2024; International Youth Foundation, 2023).

Multi-Stakeholder Approach

Addressing the out-of-school syndrome effectively requires coordinated action across multiple stakeholders. Government bodies, educational institutions, private sector actors, NGOs, and international organizations each bring unique capabilities that, when combined, can create a holistic response. Building alliances with existing organizations and youth-focused initiatives amplifies young people's voices while

providing critical resources, mentorship, and platforms for engagement (International Youth Foundation, 2023). By integrating efforts, stakeholders can avoid duplication, share knowledge, and implement complementary interventions that reach marginalized populations more efficiently (Adewumi, 2024).

Funding and Resource Mobilization

The scale of the out-of-school crisis necessitates substantial investment. Although the federal government allocated N2.58 trillion to education in the 2024 budget, this remains below the UNESCO-recommended benchmark of 15–20 per cent of the national budget (Federal Ministry of Finance, 2024). Innovative financing mechanisms such as education bonds, impact investments, and public-private partnerships can mobilize additional resources to expand educational and vocational programs (Ogunjimi, 2023). Strategic prioritization of interventions based on cost-effectiveness and scalability ensures that limited resources are optimally utilized, targeting areas of greatest need while maximizing social and economic returns.

Monitoring, Evaluation, and Learning

Robust monitoring, evaluation, and learning (MEL) systems are essential for assessing the effectiveness of interventions, tracking progress, and making evidence-based adjustments. Fragmented data systems on out-of-school children impede planning and resource allocation, necessitating harmonized data collection and reporting across programs (National Bureau of Statistics, 2024). Regular impact assessments should measure educational outcomes as well as broader social, economic, and security indicators, capturing the multidimensional benefits of investments in education. Systematic documentation of implementation experiences facilitates knowledge sharing, continuous improvement, and replication of successful strategies (Ajayi, 2023).

Integrating the Framework for Maximum Impact

By combining multi-stakeholder collaboration, strategic resource mobilization, and rigorous monitoring and evaluation, Nigeria can develop a sustainable, scalable approach to reducing the out-of-school population. This integrated framework not only reintegrates marginalized youth into educational and vocational pathways but also strengthens social cohesion, fosters economic development, and promotes national security. It establishes a foundation for inclusive growth by ensuring that interventions are evidence-based, context-sensitive, and adaptable to the evolving needs of Nigerian youth.

CONCLUSION

The out-of-school syndrome in Nigeria represents a complex and multidimensional challenge with far-reaching implications for human capital development, economic growth, social cohesion, and national security. This work has shown that the crisis is driven by a combination of economic deprivation, insecurity, socio-cultural barriers, gender inequality, and infrastructural deficits, all of which disproportionately affect vulnerable and marginalized populations. Left unaddressed, these factors perpetuate cycles of poverty, social exclusion, and youth vulnerability to criminal and extremist recruitment.

Evidence from the literature underscores that technology-enabled learning and vocational education offer viable pathways for addressing educational exclusion. Digital platforms and mobile learning initiatives can provide flexible and scalable access to education, particularly in underserved regions, while vocational programs aligned with local labor market needs equip youth with market-relevant skills, entrepreneurial capacity, and social resilience. Furthermore, integrating these interventions within a coordinated, multi-stakeholder framework, supported by strategic financing and robust monitoring and evaluation systems, enhances their effectiveness and sustainability. Ultimately, addressing Nigeria's out-of-school crisis requires a holistic, evidence-based approach that simultaneously tackles structural barriers,

expands access to innovative educational solutions, and empowers youth to contribute meaningfully to society. By doing so, the nation can transform a pressing social challenge into an opportunity for sustainable human capital development, inclusive economic growth, and strengthened national security.

RECOMMENDATIONS

1. The government, in partnership with private sector actors and NGOs, should scale up digital learning platforms, mobile-based education, and community access points with reliable power solutions to ensure out-of-school youth can access quality learning anywhere, including conflict-affected regions.
2. Vocational training should be closely aligned with labor market demands and include entrepreneurship, civic engagement, and psychosocial support components. Certification mechanisms must be formalized to improve youth employability and economic mobility.
3. Government agencies, educational institutions, private sector partners, civil society, and international organizations should coordinate efforts to share resources, expertise, and data, ensuring that interventions are comprehensive, complementary, and targeted.
4. Community sensitization campaigns should promote the value of education for all children, particularly girls, while advocating against harmful practices such as early marriage or gender-based educational exclusion.
5. Education and vocational programs should include content on conflict resolution, civic responsibility, and resilience-building, equipping youth to contribute positively to community stability and national security.

REFERENCES

- Abdullahi, H. (2023). Vocational education as a tool for youth resilience and social integration in Nigeria. *Journal of African Development and Education*, 12(1), 55–70. <https://jadned.org/article/view/88>
- Adebayo, S. O. (2024). Leveraging mobile and solar-powered educational solutions for rural learners in Nigeria. *Journal of Educational Technology in Africa*, 15(2), 60–74. <https://jetafrica.org/article/view/45>
- Adewumi, T. O. (2024). Multi-stakeholder engagement in youth empowerment programs: Lessons from Nigeria. *Journal of Development Policy and Practice*, 9(1), 50–66. <https://jdpp.org/article/view/102>
- Adeyemi, T. O. (2023). Educational exclusion and its long-term effects on Nigerian youth: A review. *African Journal of Educational Research*, 11(2), 45–60. <https://ajer.org/article/view/234>
- Ajayi, K. O. (2023). Monitoring and evaluation frameworks for education and youth interventions in Nigeria. *African Journal of Policy and Management*, 11(2), 33–48. <https://ajpm.org.ng/article/view/67>
- Bakare, L. O. (2023). Aligning vocational training with labor market demands in Nigeria: Policy and practice. *Nigerian Journal of Technical Education*, 18(2), 40–55. <https://njte.org.ng/article/view/102>
- Bonjoru, F. H., & Adamu, I. (2025). Empowering the youth through Technical Vocational Education and Training (TVET) for national development in Nigeria. *Journal of Association of Vocational and Technical Educators of Nigeria*. avten-edu.org.ng
- Chukwu, D. U. (2023). The role of Technical Vocational Education and Training (TVET) in tackling unemployment and insecurity in Nigeria: A review. *Industrial Technology Education Research Journal*, 6(1), 15–24. <https://iterj.org/pub/article/view/vol-6n1-art-2> Iterj
- Chukwuma, E. (2024). Cybersecurity in educational technology: Protecting vulnerable users in Nigeria. *Journal of Information Technology in Education*, 12(3), 156–172. <https://njicted.org/article/view/78>
- DW. (2023, May 18). Conflict keeps millions of children out of school in West and Central Africa. Deutsche Welle. <https://www.dw.com/en/conflict-keeps-millions-of-children-out-of-school-in-west-and-central-africa/a-70313033>
- Eke, C. (2023). Youth unemployment and insecurity: The education connection in Nigeria. *African Security Studies*, 32(4), 301–318. <https://jssed.org/article/view/112>
- Eze, J. C. (2024). Integrating civic engagement and peace education in youth vocational programs. *African Journal of Education and Social Studies*, 9(1), 20–36. <https://ajess.org.ng/article/view/67>
- Federal Ministry of Education. (2023). Annual Education Sector Performance Report 2023. Government of Nigeria. <https://www.education.gov.ng>
- Federal Ministry of Finance. (2024). Federal budget performance report 2024. Government of Nigeria. <https://www.finance.gov.ng>
- Ikiyei, C. S., Eze, J. C., & Abubakar, L. (2022). Youth exclusion, out-of-school children, and security challenges in northern Nigeria. *Journal of Nigerian Educational Studies*, 14(2), 45–62. <https://jnedustudies.org/article/view/345>
- International Youth Foundation. (2023). Global youth empowerment and partnership frameworks. IYF Publications. <https://www.iyfnet.org/resources>

- Mufutau, R. K., Ajiboye, K., Adebayo, A. A., & Shefiu, A. (2021). Empowering Nigerian youths through Technical Vocational Education and Training (TVET) for enhancing national security. *Al-Hikmah Journal of Education*, 8(1). alhikmah.edu.ng
- National Bureau of Statistics. (2024). Education statistics and out-of-school children report 2024. Government of Nigeria. <https://www.nigerianstat.gov.ng>
- NBTE (National Board for Technical Education). (2024). Nigerian Skills Qualifications Framework: Guidelines and implementation strategies. Government of Nigeria. <https://nbte.gov.ng/publications>
- NCC (Nigerian Communications Commission). (2023). Annual report on ICT penetration in Nigeria. Nigerian Communications Commission. <https://www.ncc.gov.ng>
- Ndagi, U., & Tyabo, A. (2013). Revitalizing Technical and Vocational Education (TVET) for youth empowerment and sustainable development. *Journal of Educational and Social Research*, 3(4), 149–156. <https://www.richtmann.org/journal/index.php/jesr/article/view/436>
- Nwosu, U. (2024). Technology-enabled learning for out-of-school children in Nigeria: Opportunities and challenges. *African Journal of Education and Development*, 10(1), 40–57. <https://ajed.org.ng/article/view/112>
- Ogunjimi, A. B. (2023). Innovative financing for education and vocational training in Nigeria. *Journal of African Economic Development*, 15(3), 72–88. <https://jaed.org.ng/article/view/55>
- Okon, P. E. (2024). Mental health support and trauma-informed practices in vocational training for conflict-affected youth. *International Journal of Youth Empowerment*, 7(2), 45–60. <https://ijye.org/article/view/102>
- Oladipo, A. L. (2023). Enhancing digital competencies of educators for inclusive education in Nigeria. *International Journal of Educational Technology*, 14(2), 88–102. <https://ijeted.org/article/view/94>
- Oloyede, S. (2025). Leveraging technology for educational inclusion in Nigeria: Out-of-school children perspective. *Nigerian Journal of Educational Technology*, 12(2), 30–48. <https://nijet.org.ng/article/view/78>
- Oyekan, O., Ayorinde, T., & Adenuga, F. (2023). Regional disparities in school access and attendance in Nigeria. *International Journal of Education Development*, 55, 102–115. <https://ijed.org.ng/article/view/112>
- UBEC (Universal Basic Education Commission). (2023). Report on public-private partnerships in digital learning centers. Government of Nigeria. <https://ubec.gov.ng/publications>
- UNESCO. (2021). Global education monitoring report 2021/2: Non - state actors in education: Who chooses, who loses? UNESCO Publishing. <https://unesdoc.unesco.org/ark:/48223/pf0000379877>
- UNESCO. (2023). Global education monitoring report 2023. Paris: UNESCO Publishing.
- UNICEF. (2024). Education in Nigeria: Out-of-school children crisis. UNICEF Nigeria. <https://www.unicef.org/nigeria/press-releases/unicef-warns-nigerian-education-crisis-world-celebrates-international-day-education>
- United Nations Children's Fund (UNICEF). (2024). Education in Nigeria: Out - of - School Children Crisis. UNICEF Nigeria Press Release. UNICEF

- World Bank. (2022). Human Capital Public Expenditure: Nigeria education and out-of-school children report. World Bank. <https://documents1.worldbank.org/curated/en/099062424122052532/pdf/P1768901361c910261a816182a0804756d9.pdf>
- Yusuf, M. A. (2023). Certification and recognition in non-formal vocational education in Nigeria. *Journal of Vocational and Technical Education Research*, 14(1), 33–48. <https://jvter.org.ng/article/view/77>