
Leveraging Information and Communication Technology (ICT) For the Reintegration of Out-Of-School Children and Accelerated Learning in Kano State, Nigeria

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ABSTRACT

The increasing number of out-of-school children continues to pose a major challenge to achieving equitable and inclusive education in Nigeria, particularly in Kano State, where poverty, child labour, early marriage, insecurity, socio-cultural practices, and inadequate educational infrastructure have contributed significantly to school exclusion. This position paper examines how Information and Communication Technology (ICT) can be leveraged to facilitate the reintegration of out-of-school children into formal education through accelerated learning programmes in Kano State, Nigeria. Drawing on contemporary scholarly literature and policy documents, the paper discusses the concepts of out-of-school children, educational reintegration, accelerated learning, and ICT, while highlighting the role of digital technologies in expanding educational access, supporting learning recovery, and improving learner engagement. The paper argues that ICT can effectively support reintegration through learner identification and registration, digital needs assessment, ICT-supported accelerated learning, teacher capacity development, continuous learner monitoring, school transition, and post-reintegration follow-up. It further identifies inadequate digital infrastructure, poor internet connectivity, unreliable electricity supply, limited access to digital devices, low digital literacy, insufficient funding, and weak policy implementation as major constraints to effective ICT utilization in Kano State. The paper concludes that institutionalizing ICT as a core component of educational reintegration and accelerated learning programmes will improve learner retention, educational participation, and learning outcomes among out-of-school children. It recommends increased government investment in digital infrastructure, teacher capacity development, localized digital learning resources, strengthened stakeholder collaboration, and effective policy implementation to promote the sustainable reintegration of out-of-school children into formal education.

Keywords: Information and Communication Technology (ICT), Out-of-School Children, Educational Reintegration, Accelerated Learning

INTRODUCTION

Education is widely recognized as a fundamental human right and a critical driver of individual empowerment, social inclusion, and sustainable national development. It equips learners with the knowledge, skills, values, and competencies required for productive participation in society while contributing significantly to economic growth and human capital development. Despite global commitments to achieving Sustainable Development Goal 4 (SDG 4), which seeks to ensure inclusive and equitable quality education for all, millions of children remain excluded from formal

education. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2024) more than 250 million children and adolescents worldwide are out of school, with a substantial proportion living in sub-Saharan Africa. Nigeria accounts for one of the largest populations of out-of-school children globally, with the problem particularly pronounced in the northern region, including Kano State, where poverty, child labour, insecurity, early marriage, socio-cultural practices, and inadequate educational infrastructure continue to restrict access to quality education.

The persistent increase in the number of out-of-school children in Kano State presents significant educational, social, and economic challenges. Children who remain outside the formal education system are more likely to experience learning loss, unemployment, social exclusion, poverty, and limited opportunities for personal development. Conventional school reintegration programmes have contributed to increasing school enrolment; however, many reintegrated learners continue to face academic gaps, low learning achievement, poor school adjustment, and a high risk of dropping out again. These challenges underscore the need for innovative interventions capable of accelerating learning while supporting learners' successful transition into formal education. Recent advances in Information and Communication Technology (ICT) have transformed teaching and learning by providing flexible, learner-centred, and technology-enabled educational opportunities. ICT encompasses digital devices, internet-based platforms, mobile technologies, educational software, virtual classrooms, learning management systems, and offline digital learning solutions that facilitate access to educational content regardless of geographical location or previous educational interruption. Empirical studies have demonstrated that ICT-supported learning improves learner engagement, literacy, numeracy, problem-solving skills, and academic achievement, particularly among disadvantaged and vulnerable learners when supported by appropriate infrastructure and teacher capacity development.

Accelerated learning programmes have also emerged as effective interventions for helping out-of-school children recover lost learning and transition into age-appropriate classes within a relatively short period. The integration of ICT into these programmes enhances instructional flexibility, promotes personalized learning, facilitates continuous assessment, and

expands access to educational resources. Through digital learning platforms, mobile applications, radio- and television-based instruction, and offline learning technologies, ICT can support learning recovery while addressing barriers associated with distance, limited educational facilities, and teacher shortages. These opportunities are particularly relevant in Kano State, where many out-of-school children reside in underserved communities with limited access to conventional educational services.

Despite these opportunities, the effective use of ICT for the reintegration of out-of-school children and accelerated learning in Kano State continues to be constrained by inadequate digital infrastructure, unreliable electricity supply, limited internet connectivity, insufficient ICT facilities, low digital literacy among teachers and learners, inadequate funding, and weak policy implementation. These challenges limit the capacity of educational institutions to maximize the benefits of technology in supporting learning recovery and sustainable educational reintegration.

Out-of-School Children

Out-of-school children refer to children of official school age who are either not enrolled in formal education or who have dropped out before completing the prescribed level of schooling. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2024), out-of-school children include those who have never attended school as well as those who enrolled but discontinued their education before completing the required level. Similarly, the United Nations Children's Fund (UNICEF, 2023) describes out-of-school children as children who are excluded from formal education because of economic, social, cultural, geographical, or conflict-related barriers. From a scholarly perspective, Lewin (2007) defines out-of-school children as learners who are denied

continuous participation in formal education due to household, institutional, and structural constraints, while Hunt (2008) argues that the concept includes children who are unable to enrol in school or who withdraw prematurely because of persistent socio-economic and educational challenges.

The problem of out-of-school children remains one of the most serious educational challenges in Nigeria, with the highest concentration found in the northern states, particularly Kano State. Despite government initiatives and interventions by development partners aimed at improving school enrolment and retention, many children remain outside the formal education system. This situation has continued to undermine educational development, increase illiteracy, and widen socio-economic inequalities.

Several interrelated factors account for the high number of out-of-school children in Kano State. Poverty remains one of the major causes, as many families are unable to meet the costs associated with schooling, compelling children to engage in income-generating activities instead of attending school. Child labour is also prevalent, with many children involved in street trading, hawking, domestic work, farming, and other economic activities that interfere with regular school attendance. In addition, the Almajiri system, although historically intended to provide Qur'anic education, has contributed to educational exclusion where children receive only religious instruction without access to formal basic education.

Early marriage, particularly among girls, continues to reduce school participation by forcing many adolescents to discontinue their education before completing secondary school. Parental illiteracy and low awareness of the benefits of formal education also discourage school enrolment and retention, especially in economically disadvantaged communities. Furthermore, inadequate educational infrastructure, including overcrowded

classrooms, shortages of qualified teachers, insufficient learning materials, and long distances to schools in some rural areas, limits children's access to quality education. Insecurity and internal displacement in parts of northern Nigeria have also disrupted schooling and increased the number of children who remain outside the formal education system.

The consequences of these factors extend beyond educational exclusion. Out-of-school children are more likely to experience poor literacy and numeracy skills, unemployment, poverty, social exclusion, child exploitation, and involvement in antisocial activities. These outcomes not only affect individual development but also hinder the socio-economic progress of Kano State and Nigeria as a whole. Consequently, there is an urgent need for innovative and sustainable interventions that facilitate educational reintegration and learning recovery. In this regard, Information and Communication Technology (ICT) offers significant opportunities to expand access to learning, support accelerated learning programmes, and improve the successful reintegration of out-of-school children into formal education in Kano State.

Information and Communication Technology (ICT)

Information and Communication Technology (ICT) refers to the collection of digital technologies used for creating, storing, processing, transmitting, and accessing information. ICT includes computers, smartphones, tablets, internet services, digital learning platforms, educational software, multimedia resources, and communication technologies that facilitate teaching and learning processes (UNESCO, 2023).

Educational Reintegration

Educational reintegration is the process of returning out-of-school children to formal education while providing the academic,

psychosocial, and institutional support needed for successful school adjustment and retention. According to UNESCO (2024), reintegration extends beyond school enrolment by ensuring that learners receive continuous support to complete their education. In Kano State, many children who have been out of school due to poverty, child labour, the Almajiri system, early marriage, and insecurity require structured interventions before they can successfully re-join formal education. ICT supports this process by facilitating learner identification, providing access to digital learning resources, enhancing communication among stakeholders, and monitoring learners' academic progress.

Accelerated Learning

Accelerated learning is an educational approach that enables out-of-school children to acquire essential knowledge and skills within a shorter period and transition into age-appropriate classes. It is particularly relevant in Kano State, where many children have experienced prolonged interruptions in schooling. ICT enhances accelerated learning through digital learning platforms, mobile applications, educational videos, radio and television lessons, and offline learning technologies. These tools promote flexible, learner-centred instruction, improve learner engagement, and support continuous assessment, thereby facilitating successful reintegration into formal education.

Challenges to ICT Utilization for the Reintegration of Out-of-School Children and Accelerated Learning in Kano State, Nigeria

Despite the potential of ICT to support educational reintegration, several challenges hinder its effective utilization in Kano State. These include inadequate ICT infrastructure, unreliable electricity supply, poor internet connectivity, limited access to digital devices, low digital literacy among teachers and learners, inadequate funding, weak policy implementation, and

insufficient technical support. Socio-cultural barriers, language differences, and security concerns also limit the adoption of ICT in schools and learning centres. Addressing these challenges requires increased investment in digital infrastructure, teacher training, affordable internet services, localized digital learning resources, stronger policy implementation, and collaboration among government, schools, communities, and development partners to ensure the sustainable reintegration of out-of-school children through ICT-supported learning.

ICT Tools for Educational Reintegration and Accelerated Learning

Several ICT tools have been identified as effective resources for supporting educational reintegration and accelerated learning. These include mobile learning applications, digital learning management systems, educational websites, online learning platforms, virtual classrooms, educational videos, e-books, and offline digital learning solutions (OECD, 2023). Mobile learning technologies have gained particular relevance due to the widespread availability of mobile devices in many developing countries. Mobile applications provide flexible access to educational content and enable learners to continue learning outside traditional classroom settings. Similarly, offline digital learning platforms have proven effective in areas with limited internet connectivity, ensuring that learners can access educational resources regardless of infrastructural limitations (World Bank, 2025).

ICT-Based Strategy for the Reintegration of Out-of-School Children and Accelerated Learning in Kano State, Nigeria

The successful reintegration of out-of-school children requires a systematic approach that combines educational planning, learner support, and the effective use of Information and Communication Technology (ICT). The following step-by-

step strategy illustrates how ICT can be leveraged to facilitate accelerated learning and sustainable reintegration into formal education in Kano State.

Step 1: Identification and Registration of Out-of-School Children; the first stage involves identifying out-of-school children through community mapping, household surveys, school records, and collaboration with traditional rulers, religious leaders, community-based organizations, and the Kano State Universal Basic Education Board (SUBEB). ICT-based databases and digital registration systems should be used to collect information on learners' age, educational background, location, and learning needs. This digital database enables educational authorities to plan and monitor reintegration programmes effectively.

Step 2: Assessment of Learners' Educational Needs;

After registration, learners should undergo ICT-supported diagnostic assessments to determine their literacy, numeracy, digital skills, and psychosocial needs. Computer-based or tablet-based assessments can help educators identify learners' academic levels and place them in appropriate accelerated learning classes. The assessment results also assist teachers in developing individualized learning plans.

Step 3: ICT-Supported Accelerated Learning; Based on the assessment results, learners should be enrolled in ICT-supported accelerated learning programmes designed to bridge learning gaps within a shorter period. Learning should be delivered through digital platforms such as educational applications, Learning Management Systems (LMS), educational videos, interactive software, radio and television lessons, offline digital content, and mobile learning applications. These technologies allow learners to learn at their own pace while improving literacy, numeracy, and digital competencies.

Step 4: Teacher Capacity Development; Teachers and facilitators should receive continuous training on the effective integration of ICT into accelerated learning. Capacity-building programmes should focus on digital pedagogy, online learner assessment, instructional technology, classroom management, and the use of educational software. Competent teachers are essential for the successful implementation of ICT-based reintegration programmes.

Step 5: Continuous Learner Monitoring and Support;

ICT should be used to monitor learners' attendance, academic progress, participation, and learning outcomes. Digital attendance systems, learner management platforms, mobile communication, and electronic progress reports should enable teachers, parents, and school administrators to identify learners who require additional academic or psychosocial support before they drop out again.

Step 6: Transition into Formal Education; after completing accelerated learning, learners who meet the required academic standards should be enrolled in age-appropriate classes within formal schools. ICT-supported learner records should accompany each learner to facilitate proper placement and continuity of learning. Schools should continue to provide academic support, orientation programmes, and mentoring to ensure successful adjustment.

Step 7: Post-Reintegration Follow-Up; Reintegration should not end with school enrolment. Educational authorities, teachers, parents, and community stakeholders should use digital communication platforms such as SMS, WhatsApp groups, school portals, and learner information systems to monitor attendance, academic performance, and school retention. Regular follow-up ensures that learners remain in school and successfully complete their education.

DISCUSSION

This paper maintains that Information and Communication Technology (ICT) is a strategic tool for facilitating the reintegration of out-of-school children and strengthening accelerated learning programmes in Kano State, Nigeria. The evidence presented demonstrates that ICT extends educational opportunities beyond conventional classroom instruction by providing flexible, learner-centred, and technology-supported learning environments.

The paper argues that successful reintegration requires more than providing access to education; it demands a structured process involving learner identification, educational assessment, ICT-supported accelerated learning, teacher capacity development, continuous learner monitoring, transition into formal schooling, and sustained follow-up. When these components are implemented systematically, ICT enhances learning

recovery, improves learner engagement, strengthens academic achievement, and reduces the likelihood of repeated school dropout.

The discussion further shows that digital technologies—including mobile learning applications, Learning Management Systems, educational videos, offline learning resources, radio and television lessons, and electronic learner management systems—can expand access to quality education, particularly for children living in underserved communities. However, the effectiveness of these interventions depends on adequate digital infrastructure, reliable electricity, internet connectivity, trained teachers, supportive government policies, and sustained investment in educational technology.

Therefore, this paper argues that ICT should be institutionalized as an integral component of accelerated learning and educational reintegration programmes in Kano State. Through coordinated implementation by government agencies, schools, development partners, communities, and families, ICT can improve learning recovery, strengthen educational participation, enhance learner retention, and support the sustainable reintegration of out-of-school children into formal education.

CONCLUSION

The increasing number of out-of-school children in Kano State, Nigeria, continues to pose a serious challenge to achieving equitable access to quality education and sustainable national development. Although government and development partners have implemented various educational interventions to improve school enrolment, many children remain excluded from formal education because of poverty, child labour, early marriage, insecurity, socio-cultural practices, and inadequate educational opportunities. Addressing these challenges requires innovative approaches that extend beyond

conventional classroom instruction and support learners in recovering lost learning.

This paper has demonstrated that Information and Communication Technology (ICT) is a strategic tool for facilitating the reintegration of out-of-school children through accelerated learning programmes. ICT provides flexible and learner-centred opportunities that support learner identification, digital assessment, accelerated instruction, continuous monitoring, and successful transition into formal education. Technologies such as mobile learning applications, Learning Management Systems, educational videos, offline digital resources, radio and television lessons, and virtual learning platforms can significantly improve learning recovery, learner engagement, and educational participation among disadvantaged children.

The paper further established that the successful utilization of ICT depends on adequate digital infrastructure, reliable electricity and internet connectivity, teacher capacity development, digital literacy, sustainable funding, and effective policy implementation. It also emphasized that the reintegration of out-of-school children requires strong collaboration among government agencies, schools, teachers, parents, community leaders, development partners, and the private sector to ensure that ICT-supported interventions are accessible, sustainable, and responsive to learners' needs.

Therefore, this paper concludes that ICT should be institutionalized as a core component of educational reintegration and accelerated learning programmes in Kano State, Nigeria. Implementing a structured ICT-based reintegration process—comprising learner identification, educational assessment, accelerated learning, continuous monitoring, school transition, and post-reintegration follow-up—will enhance learner retention, improve educational outcomes, reduce repeated school dropout,

and contribute significantly to achieving inclusive, equitable, and sustainable education for all.

RECOMMENDATIONS

Based on the position advanced in this paper, the following practical recommendations are proposed:

1. Establish ICT-Supported Reintegration Centres, the Kano State Ministry of Education, in collaboration with SUBEB, UBEC, and development partners, should establish ICT-supported Accelerated Learning and Reintegration Centres in Local Government Areas with high concentrations of out-of-school children. These centres should provide digital learning facilities, learner assessment, accelerated learning programmes, and transition support before learners are enrolled into formal schools.
2. Provide ICT Infrastructure in Public Schools; the Federal Ministry of Education, Kano State Government, and private-sector organizations should equip public primary and junior secondary schools with computer laboratories, internet connectivity, solar-powered electricity, multimedia projectors, and offline digital learning resources. Priority should be given to rural and underserved communities where the majority of out-of-school children reside.
3. Train Teachers and Accelerated Learning Facilitators; the Kano State Ministry of Education, Colleges of Education, and teacher training institutions should organize regular professional development programmes on digital pedagogy, Learning Management Systems (LMS), educational software, artificial intelligence tools, and online learner assessment. These training programmes should be conducted before the commencement of every accelerated learning cycle to ensure

- that teachers possess the skills needed to implement ICT-supported instruction effectively.
4. Develop Localized Digital Learning Resources; the Nigerian Educational Research and Development Council (NERDC), Kano State Ministry of Education, curriculum developers, and educational technology experts should develop ICT-based instructional materials in both English and Hausa. These resources should include interactive lessons, educational videos, e-books, mobile learning applications, and offline digital content aligned with the Nigerian basic education curriculum to improve comprehension among reintegrated learners.
 5. Implement a Digital Learner Tracking and Monitoring System; the Kano State Ministry of Education, SUBEB, school administrators, and teachers should establish a digital learner management system to monitor learners' enrolment, attendance, academic progress, and retention. Schools should use electronic attendance registers, digital learner profiles, and mobile communication platforms such as SMS and WhatsApp to identify learners at risk of dropping out and provide timely academic and psychosocial support.
 6. Strengthen Community Participation through ICT; school administrators, traditional rulers, religious leaders, parents' associations, community-based organizations, and non-governmental organizations should collaborate to identify out-of-school children and encourage their enrolment through ICT-supported community awareness campaigns. Radio programmes, social media platforms, mobile messaging, and community information centres should be used to promote the importance of formal education and accelerated learning throughout Kano State.
 7. Increase Sustainable Funding for ICT-Based Reintegration Programmes; Federal Government of Nigeria, Kano State Government, international development partners, donor agencies, and private-sector organizations should allocate dedicated funding for ICT-supported reintegration programmes. The funding should cover the procurement and maintenance of ICT equipment, internet connectivity, software licences, teacher training, learner support services, and technical maintenance to ensure the long-term sustainability of digital learning initiatives.
 8. Institutionalize ICT in Reintegration and Accelerated Learning Policies; the Federal Ministry of Education, Kano State Ministry of Education, UBEC, and SUBEB should revise existing educational policies to institutionalize ICT as a core component of out-of-school children reintegration and accelerated learning programmes. Policy implementation should include clear operational guidelines, periodic monitoring and evaluation, measurable performance indicators, and annual programme reviews to assess the effectiveness of ICT interventions and improve educational outcomes.

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