

## A FEASIBILITY STUDY ON INTEGRATING PODCAST-BASED LEARNING TO IMPROVE EDUCATIONAL DELIVERY IN IDP CAMP SCHOOLS IN NORTHERN NIGERIA

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### Abstract

This study examines the feasibility of integrating podcast-based learning to improve educational delivery in IDP camp schools in Northern Nigeria. Displaced children face disrupted schooling due to overcrowding, irregular attendance, limited teaching materials, and teacher shortages. Traditional instruction alone is insufficient, highlighting the need for accessible, low-cost innovations. Podcasts offer curriculum-aligned audio lessons that can be accessed via mobile phones, radios, or shared devices, functioning offline and requiring minimal digital skills. The research evaluates technical, operational, social, and cultural feasibility, considering device access, power constraints, teacher readiness, classroom integration, and community acceptance. Evidence from local and international contexts suggests that short, structured, and culturally relevant podcast episodes enhance comprehension, engagement, and self-directed learning. Findings indicate that successful adoption requires curriculum alignment, teacher training, interactive follow-up, and community support. Podcast-based learning thus presents a scalable, low-resource solution to support learning continuity, mitigate instructional gaps, and improve educational outcomes for children in displacement contexts.

### Background to the Study

Education gains its deepest meaning when it becomes a source of stability in the midst of uncertainty. For thousands of children living in Internally Displaced Persons (IDP) camps across Northern Nigeria, schooling represents more than academic progress, it offers routine, hope, and a sense of normalcy in environments shaped by conflict and displacement. Yet, these learning spaces often operate under severe strain. Overcrowded classrooms, irregular learner attendance, inadequate teaching materials, and a persistent shortage of qualified teachers weaken the learning experience and limit the ability of children to thrive academically. These realities highlight a critical truth: traditional teaching models alone are struggling to meet the educational needs of children in displacement settings. Consequently, flexible, accessible, and low-cost innovations are urgently needed to support both teachers and learners. Among such emerging solutions, **podcast-based learning** stands out for its simplicity and adaptability. Podcasts can deliver structured lessons through mobile phones, radios, or shared devices—tools that are commonly available even in resource-poor contexts. They function offline,

require minimal technical skills, and can supplement classroom teaching or provide alternative learning pathways when regular schooling is disrupted. Northern Nigeria presents a setting where podcast-supported learning could make a meaningful difference. Despite the challenges, many camp residents have access to basic mobile devices, and the widespread familiarity with audio media creates a natural pathway for integrating educational podcasts. In addition, podcast lessons can help bridge the gap created by limited teacher capacity by offering consistent instructional support aligned with curriculum needs. However, introducing such an intervention requires more than good intentions. It demands a clear understanding of the camp environment, the readiness of teachers and learners, the availability of devices, and the social acceptance of audio-based learning. A feasibility study becomes necessary to examine these factors systematically and determine whether podcast-based learning can realistically enhance the quality of teaching and learning in IDP camp schools. This study therefore investigates the practicality, acceptability, and potential effectiveness of integrating podcast-based learning packages into educational delivery within IDP camps in Northern Nigeria. Its findings aim to inform educators, policymakers, and humanitarian stakeholders seeking sustainable strategies to improve learning outcomes in crisis-affected regions.

### **Statement of the Problem**

Children in IDP camps arrive in the classroom each day carrying more than school bags—they carry the weight of displacement, loss, and interrupted learning. While education is meant to offer stability, many camp schools struggle to provide even the most basic conditions for effective teaching and learning. Teachers often work with limited training and almost no instructional resources. Learners sit in overcrowded tents, sometimes sharing a single textbook among several classmates. For many, lessons are rushed, irregular, or repeatedly disrupted by the realities of camp life.

Although audio-based learning has proven useful in other low-resource or crisis contexts, its potential remains largely untapped within Northern Nigeria's IDP camps. Yet, these same spaces host thousands of children with access to basic mobile phones or shared audio devices tools that could support structured podcast lessons if properly designed and integrated. The gap lies not in interest, but in a lack of evidence about whether such an approach is realistic, acceptable, and sustainable in this fragile environment. The central problem, therefore, is the absence of empirical information on the feasibility of using podcast-based learning as an instructional support system in IDP camp schools in Northern Nigeria. Without understanding the technical readiness, operational capacity, learner engagement, and social acceptance of such tools, stakeholders cannot make informed decisions about integrating podcasts into teaching and learning processes. This study addresses that gap by examining whether podcast-based learning can be effectively adopted to enhance educational delivery in these displacement settings.

### **Objectives of the Study**

The main aim of this study is to evaluate the feasibility of integrating podcast-based learning to enhance educational delivery in IDP camp schools in Northern Nigeria. Specifically, the study seeks to:

1. **Assess the technical feasibility** of using podcast-enabled learning tools in IDP camp schools.

2. **Determine the preparedness and willingness of teachers** to adopt podcast-supported instruction.
3. **Examine learners' perceptions and acceptance** of podcast-based educational content.
4. **Identify operational, cultural, and contextual factors** that may affect the integration of podcast-based learning.
5. **Highlight possible barriers for adoption** and long-term sustainability of podcast lessons in IDP camp settings.

## **Conceptual Frame work**

### **Podcast Based Learning:**

Educational podcasts are audio recordings designed to facilitate learning through structured, curriculum-aligned content accessible via mobile devices or simple audio players. They support comprehension, content review, and independent learning, particularly in contexts where classroom instruction is irregular. Podcasts provide narrative explanations, guided instruction, and can be paired with visual or printed materials for multimodal reinforcement. Their portability allows learners to access content at convenient times, enhancing engagement and retention (Hew, 2009). Research shows that podcasts help learners replay segments, control pacing, and reinforce complex concepts, reducing cognitive load (Kay, 2012). In low-resource settings, podcasts compensate for teacher shortages and limited instructional time, functioning on basic phones with minimal bandwidth and electricity requirements (Siemens et al., 2020). Limitations include device access, competing household responsibilities, and reduced interaction or feedback opportunities. Despite these challenges, podcasts are a practical, adaptable, and cost-effective tool to maintain learning continuity in crisis-affected and marginalized environments (McGarr, 2021).

### **Education in Emergencies: Global Perspectives**

Global definitions and goals of education in emergencies. Education in emergencies (EiE) is widely recognized as an essential component of humanitarian response that ensures the continuation of learning during crises caused by conflict, displacement, natural disasters, or health emergencies. It is defined within global humanitarian frameworks as the provision of equitable, inclusive, and safe learning opportunities that protect the rights and wellbeing of children when regular schooling systems are interrupted (Burde et al., 2017). Over time, the EiE field has expanded to acknowledge education as not only a tool for cognitive development but also a critical intervention that offers emotional support, stability, and protection for crisis affected learners. Evidence shows that education functions as a protective factor by giving displaced and conflict affected children a sense of normalcy and structure during highly unstable periods (Burde et al., 2017). This understanding positions education as a lifesaving service, comparable to health, nutrition, and shelter in humanitarian operations.

International frameworks (INEE standards, UNESCO strategies). Several global frameworks guide EiE planning and implementation. The Inter Agency Network for Education in Emergencies (INEE) Minimum Standards provide a widely adopted set of principles that outline essential actions for preparedness, response, and recovery in crisis settings (INEE,

2024). They emphasize access, quality, protection, inclusion, and accountability across all phases of emergencies. UNESCO complements these standards through strategic frameworks that advocate for resilient education systems capable of maintaining functionality despite shocks. UNESCO's policies rest on international human rights treaties and the global commitment to Sustainable Development Goal 4, which calls for inclusive and quality education for all (UNESCO, 2025). Together, these frameworks establish shared priorities that assist governments and humanitarian actors in safeguarding access and continuity of education during emergencies.

Successes and failures of educational interventions in crisis contexts. Empirical studies indicate that well designed educational interventions have produced positive outcomes in several humanitarian settings. Structured learning programs and psychosocial support initiatives have been shown to improve school attendance and learner wellbeing in conflict affected areas (Burde et al., 2017).

### **Theoretical Framework**

This study is built on three complementary theories that help explain how podcast-based learning may function within the complex educational conditions of IDP camp schools in Northern Nigeria. Together, these theories clarify how individuals respond to new technologies, how learners construct meaning from instructional materials, and how innovations spread within a community. The three theories applied are the Technology Acceptance Model, Constructivist Learning Theory, and the Diffusion of Innovations Theory.

**The Technology Acceptance Model:** provides the first lens for evaluating the likelihood that teachers and learners will accept podcast-based instruction. This model suggests that technology adoption depends largely on two beliefs: whether users think the tool will improve their performance and whether they see it as easy to operate (Davis, 1989). In the context of IDP camp schools, these beliefs shape whether teachers integrate podcast lessons into daily instruction. Teachers are more receptive when podcasts appear to simplify explanations or offer additional support in overcrowded classrooms. Learners are more willing to use podcasts when the material is clear, accessible on familiar devices, and uncomplicated to use. Previous research in emergency education settings shows that acceptance is strongly influenced by perceived usefulness and simplicity, particularly where digital exposure is limited (Khlaif et al., 2021). This theory therefore helps the study assess individual willingness to adopt podcast-based learning.

**The Constructivist Learning Theory:** emphasizes that learners make sense of new ideas through active engagement and reflection (Vygotsky, 1978; Bruner, 1996). Even though podcasts rely on audio alone, they can support these processes by enabling learners to replay lessons, reflect on what they hear, and connect new information with prior knowledge. In IDP settings where textbooks are scarce and schooling is inconsistent, the ability to revisit lessons is especially valuable. Audio lessons can help learners strengthen understanding despite missed classes or limited teaching resources. Constructivist principles also highlight how teachers can use podcast episodes as catalysts for group discussions, problem-solving tasks, or guided reflection, which deepen comprehension. Studies on learning in disrupted environments suggest that structured audio materials can promote learner autonomy and support continuity of learning when traditional resources are unavailable (Wagner, 2018). This theory therefore

explains the pedagogical value of integrating podcast-based instruction in resource-constrained environments.

The **Diffusion of Innovations**: this brings a community perspective by explaining how new practices gain acceptance across social groups. According to this theory, innovations spread when they are seen as advantageous, compatible with existing norms, simple to use, and open to trial without major risks (Rogers, 2003). Within IDP camps, these characteristics influence how teachers, learners, parents, and camp leaders respond to podcast-supported learning. Early adopters such as motivated teachers or high-achieving learners often shape the perceptions of others by demonstrating the benefits of using podcasts. Positive experiences, such as improved learner participation or easier lesson delivery, increase the likelihood of wider acceptance. Research in refugee and displacement contexts shows that learning innovations succeed more readily when community perceptions are supportive and when cultural alignment is evident (Dryden-Peterson, 2021).

## **Reviewed Literature**

### **Schooling in Displacement Contexts**

Characteristics of learning environments in refugee and IDP contexts. Learning environments in displacement settings are often unstable, under-resourced, and improvised. Schools in IDP settlements frequently operate in temporary shelters with limited instructional materials and unpredictable schedules. Overcrowded classrooms and diverse learner backgrounds increase teaching complexity. Weak governance and discontinuity of learning necessitate flexible educational models that accommodate inconsistent attendance and learners coping with trauma (Bendraou & Bernard, 2026). Education in these settings not only supports academic progression but also provides stability for children affected by hardship. Displaced learners face psychosocial stress from violence, forced migration, and family loss, which impairs cognitive engagement and attendance. High mobility leads to frequent school changes and learning gaps. Structural barriers, including language differences, teacher shortages, and inadequate certification systems, further hinder access to quality education. Evidence from Sub-Saharan Africa shows that displaced learners often perform below peers in literacy and numeracy due to fragmented schooling, insufficient infrastructure, and weak institutional capacity (Bendraou & Bernard, 2026).

### **Educational Realities in Northern Nigeria's IDP Camps**

Northern Nigeria has experienced prolonged displacement due to insurgency, banditry, and communal conflicts (Internal Displacement Monitoring Centre [IDMC], 2022; Nigeria Humanitarian Response, 2021). Families in Borno, Yobe, and Adamawa States face disrupted schooling and overburdened education systems (ThisDayLive, 2025; Omotayo & Okonkwo, 2021). Humanitarian agencies provide makeshift schooling under significant limitations, with prolonged interruptions affecting academic progress and wellbeing (UNICEF, 2020; Bendraou & Bernard, 2026). IDP schools often lack permanent structures, forcing children to learn in tents or outdoors. Teacher shortages and high student-to-teacher ratios reduce instructional quality, while irregular attendance, insecurity, and household responsibilities disrupt learning (ThisDayLive, 2025).

## **Evolution of Educational Technology**

Traditional face-to-face instruction is frequently disrupted in crisis contexts. Digital tools, including mobile apps, radio, and offline platforms, support learning continuity where schools operate irregularly (Naylor & Sayed, 2014). ICT-supported models in East Africa, the Middle East, and South Asia enhance engagement and mitigate teacher shortages (Tauson & Stannard, 2018). Infrastructure deficits, limited electricity, and scarce devices hinder adoption of high-tech solutions (Wang & Winstead, 2016).

## **Audio and Radio-Based Learning**

Audio-based instruction has effectively supported learning during emergencies, such as the Ebola crisis and COVID-19 pandemic. Radio lessons in Sub-Saharan Africa improved literacy and numeracy when combined with caregiver support (Santos et al., 2021; Damani & Mitchell, 2020). Audio methods reduce disparities in content delivery, reach learners regardless of mobility, and provide a culturally resonant learning modality in contexts lacking formal teaching staff (Burde et al., 2019).

## **Feasibility of Technology-Supported Learning in Crisis Settings**

### **Understanding Feasibility in Humanitarian Education Research**

Feasibility in humanitarian education research refers to the extent to which a technology intervention can realistically function within fragile environments and produce meaningful learning outcomes before being fully deployed. Scholars often describe feasibility across five interconnected dimensions: technical, economic, operational, social, and contextual (Bachtiger et al., 2020). The technical dimension focuses on infrastructure reliability, device readiness, and compatibility. Economic feasibility examines affordability for implementing agencies, donors, and communities. Operational feasibility addresses how well the intervention fits into existing school routines, staffing patterns, and administrative procedures. Social feasibility involves learner, teacher, and community acceptance, while contextual feasibility considers conflict dynamics, mobility patterns, and camp governance (Dryden-Peterson, 2020). In emergency education, feasibility assessments are vital because interventions often arrive in fragile settings where resources are limited, populations are mobile, and risks are unpredictable. Without understanding these constraints in advance, even well-designed technologies may fail during pilot implementation. A feasibility review identifies early warning signs, such as weak telecommunications, inconsistent electricity, or heavy teacher workload, which could undermine the intervention's potential (Ho et al., 2021). It also helps agencies choose the most appropriate delivery modality, such as audio lessons instead of app-based tools when connectivity is low.

Another reason feasibility is critical is that humanitarian education programs operate under strict funding cycles. Mistakes during pilot phases can lead to wasted resources and reduced donor confidence, particularly where evidence of effectiveness must be demonstrated quickly (Smith & Tang, 2021). Feasibility studies allow implementers to gather information from teachers, community leaders, and learners to ensure the proposed technology aligns with cultural norms, security concerns, and the realities of displacement. For example, if girls have limited access to digital devices due to social norms, this information must be considered before deployment. Furthermore, feasibility assessments support safer and more ethical interventions. They prevent the introduction of technologies that might unintentionally worsen inequalities

or expose learners to protection risks, including device theft or surveillance in insecure settings (Betancourt et al., 2021).

### **Technical Feasibility in Low-Resource Environments**

Technical feasibility focuses on whether available infrastructure and devices can support learning technologies in low-resource humanitarian settings. In many displacement environments, mobile phone ownership is widespread, but the distribution is uneven across gender and age groups, which shapes learners' ability to access educational content (GSMA, 2022). Studies show that basic phones, radio receivers, and shared household mobile devices are more accessible than smartphones, particularly among displaced populations (Scott et al., 2021). Radio penetration remains high in camps, making audio instruction a realistic option where internet access is limited.

Power supply constraints are among the most significant technical challenges. IDP camps often rely on small generators, solar chargers, or sporadic grid connections. Learners may have limited opportunities to charge devices, reducing the practicality of energy-intensive tools like tablets or smartphones. Solar-powered radio devices and low-energy audio players have been proposed as viable alternatives because they require minimal maintenance and can support repeated use (Van Wyk & Vosloo, 2020). Device durability is equally important, as harsh weather conditions, dust, and frequent mobility can damage fragile electronics.

Digital skill levels also influence technical feasibility. Teachers and learners in emergency settings often have uneven exposure to digital tools. Research shows that audio-based formats, such as narrated lessons and interactive voice response systems, require less digital literacy and are easier to integrate into existing learning practices (Alderson et al., 2021).

Another technical factor relates to signal availability. Mobile networks in humanitarian settings can be weak or unstable due to distance from urban centers or conflict-related damage to infrastructure. This makes asynchronous media, like preloaded audio content, particularly useful because learners can use it without relying on continuous connectivity (Cranmer, 2021).

### **Operational Feasibility within IDP Camp Schools**

Operational feasibility examines whether technology-supported learning can fit into the day-to-day realities of IDP camp schools. These schools often operate under resource constraints, high student turnover, and irregular schedules. Lessons may be shorter than those in formal national systems due to overcrowding, security concerns, or limited staffing (Burde et al., 2019). Therefore, interventions must align with existing lesson duration and classroom rhythms. Audio-based lessons, typically ranging from 10 to 20 minutes, often match the flexible scheduling common in camps (Mendenhall et al., 2021).

Teacher workload is another major consideration. Many teachers in IDP schools are volunteer instructors or community educators with limited formal training. They often manage large classes with limited teaching materials, which means any new technology should reduce rather than increase their administrative burden. Studies show that interventions requiring minimal preparation time, such as pre-recorded lessons with simple facilitation guides, are more readily adopted in emergency contexts (Kirk & Winthrop, 2021). Programs that demand frequent device updates, complex troubleshooting, or extensive reporting may overwhelm teachers' capacities.

Administrative capacity also varies across camp schools. Some camps have education coordinators who can oversee distribution and monitoring of devices, while others operate through rotating community committees. Operational feasibility requires interventions that can function in both settings. For example, small portable audio units can be managed by teachers without requiring central storage or advanced inventory systems (Pherali & Abu-Jarour, 2021).

Space availability is another operational concern. Many IDP schools rely on tents, temporary shelters, or open classrooms. These environments may not support large technology installations, but small-scale listening groups or individual audio sessions can be accommodated. Research shows that learners in emergency contexts benefit from structured group listening sessions that fit within limited classroom space while providing peer interaction (Burde & Khan, 2018).

### **Social and Cultural Feasibility**

Social and cultural feasibility refers to the degree to which communities, parents, teachers, and local leaders accept technology-supported learning initiatives. In crisis situations, community attitudes toward technology strongly influence uptake. Research shows that displaced communities often value education highly but may worry about unfamiliar digital devices, particularly when they fear external surveillance, increased community tensions, or misuse by children (Karanja & Mwangi, 2020). Gaining acceptance requires strong community engagement and transparent communication about how the technology works.

Parental perceptions play a determining role, especially in contexts where household members share limited digital devices. Some parents may prioritize device use for communication or livelihood activities rather than learning. Others may fear that technology distracts children from household responsibilities. Studies indicate that when parents understand the educational benefits of audio or mobile learning, acceptance increases significantly (Weidmann & Dziedzic, 2021).

Gender norms also shape access. In many crisis environments, boys often have more freedom to handle digital devices than girls, which can create gender gaps in technology participation. Social feasibility requires addressing these norms through gender-sensitive delivery approaches, such as community sensitization sessions, teacher guidance, and separate listening groups when necessary (Kirk & Martinez, 2018).

Leadership approval is another social determinant. Camp leaders, teachers' committees, and religious figures often influence community perspectives. When leaders endorse a technology intervention, families are more willing to participate. Conversely, skepticism from leaders can restrict adoption even when technology is available. Engaging leadership from the early planning stages strengthens legitimacy and cultural grounding.

Cultural acceptance of audio-based instruction also matters. In many African contexts, oral traditions play a central role in teaching and community knowledge sharing. This makes audio instruction culturally resonant, as it mirrors traditional storytelling and communal learning (Chaudhury et al., 2021).

## **Teacher Readiness and Professional Competence in Technology Integration**

### **Teacher Capacity in IDP Camp Schools**

Teachers working in IDP camp schools often enter the classroom with mixed academic qualifications and uneven pedagogical preparation. Many are volunteer teachers or community members who have limited formal training, which creates gaps in classroom management, lesson planning, and student assessment (Mendenhall et al., 2020). These gaps are even more visible when learners have significant academic disruptions or trauma-related learning difficulties. Teachers also experience emotional strain from working in unstable environments, often managing overcrowded classes and insufficient learning materials. Research shows that teachers in crisis settings frequently experience burnout due to insecurity, high workloads, and the pressure to support distressed learners (Gallagher, 2021).

Training opportunities in IDP settings are often short, sporadic, or delivered by multiple agencies with limited coordination. This limits teachers' exposure to systematic professional development that supports instructional consistency. Studies highlight a need for continuous, context-sensitive training programs that strengthen teachers' basic pedagogy alongside new skills such as facilitating audio lessons or integrating low-tech tools in large, diverse classrooms (Kirk & Winthrop, 2021).

### **Teachers' Technology Readiness and Attitudes**

Teachers' willingness to adopt instructional technology in crisis environments depends on their confidence, exposure, and perceptions of its usefulness. Studies show that readiness increases when teachers believe technology can reduce workload, simplify instruction, or improve student learning (Teo et al., 2019). The Technology Acceptance Model provides strong evidence for understanding these attitudes. TAM-based studies consistently show that perceived usefulness and perceived ease of use strongly shape teachers' decisions to accept or reject new tools, particularly in resource-limited settings (Scherer et al., 2019). When teachers feel the tool is intuitive and does not require advanced digital skills, they are more open to integration.

Self-efficacy is another major predictor of technology readiness. Teachers who believe they have the ability to use a device or facilitate a podcast lesson are more likely to adopt it in their daily routines. In humanitarian settings, digital confidence is often low because most teachers have limited prior exposure to ICT tools. This creates hesitation toward unfamiliar technologies, especially those requiring updates or troubleshooting. Research shows that simple, low-tech tools such as audio recordings carry higher acceptance because they align with teachers' existing skills and teaching styles (Cranmer, 2021).

### **Professional Development for Low-Tech Learning Innovations**

Effective professional development in humanitarian contexts must be simple, practical, and aligned with teachers' daily challenges. Teachers benefit most from training that demonstrates how low-tech tools, such as audio lessons, can complement existing teaching rather than replace classroom interaction (Hennessy et al., 2022).

Professional development must also address large-class management, trauma-sensitive pedagogy, and flexible learning strategies because IDP schools often experience irregular

attendance. Studies find that low-tech innovations work best when teachers see them as supportive resources that reduce workload and enhance clarity in content delivery (Burns & Lawrie, 2020).

## **Learner Engagement and Learning Behaviours in IDP Settings**

### **Characteristics of Learners in Displacement Contexts**

Children in IDP settings often experience sustained trauma, family disruption, and instability, which influence their cognitive functioning, attention span, and emotional regulation. Research shows that trauma can impair working memory and concentration, making it difficult for learners to sustain focus during lessons (Betancourt et al., 2021). Instability also disrupts routines, causing learners to struggle with consistency in participation and academic progression. Irregular attendance is common because families frequently move between camps, prioritize household survival activities, or respond to safety concerns (Dryden-Peterson, 2020).

### **Audio-Based Learning and Its Impact on Engagement**

Audio-based learning has been shown to improve attention, comprehension, and motivation, especially among learners who struggle with reading or have interrupted schooling. Studies show that audio lessons and educational podcasts support sustained attention because they deliver clear, structured content that reduces cognitive overload (Yeh et al., 2022).

Podcasts also support emotional engagement by incorporating storytelling, local languages, and relatable scenarios. Story-based approaches align with cultural traditions in many African communities, encouraging active listening and improving comprehension (Chaudhury et al., 2021). Evidence shows that learners demonstrate higher motivation when content features familiar voices, culturally relevant narratives, and age-appropriate pacing.

### **Local Case Study: Impact of Podcast Use in Nigerian Higher Education**

One of the first empirical studies examining *podcast-supported learning* in a Nigerian context investigated how podcasts influenced teaching and learning among students at Kaduna State College of Education, Gidan Waya (Abdulraheem, 2025). The research employed a quantitative survey design, gathering data from 150 randomly selected students to understand how audio podcasts were used for academic learning. Results showed that although podcasts had limited formal use by lecturers in instructional delivery, students frequently accessed academic content via audio and radio podcasts for self-directed study. This pattern suggests that learners are leveraging audio formats, often via mobile devices or internet streams—to supplement their learning outside structured classroom time.

Importantly, the study recommended that lecturers actively integrate podcasts into lesson plans, provide curated audio content aligned with curricula, and support students in using podcasts for academic inquiry. Improving awareness and pedagogical training on podcast creation and integration was also seen as key for enhancing instructional impact. Overall, while students exhibited enthusiastic engagement with audio resources for independent study, the research underscored that *formal adoption of podcast tools in Nigerian tertiary education requires targeted capacity building for lecturers, better alignment with curricula, and infrastructural support* to maximize learning gains (Abdulraheem, 2025). The findings demonstrate how audio-assisted learning can empower student agency in environments where traditional

multimedia resources may be limited, but also point to the structural and pedagogical conditions necessary for sustainable implementation.

### **International Case Study: Collaborative Podcast Listening in Iranian Secondary Schools**

A widely cited international case study explored the educational impact of *collaborative listening to podcasts* on high school learners' listening comprehension and vocabulary acquisition in Iran (Saeedakhtar et al., 2021). This quasi-experimental study involved 48 intermediate English learners randomly assigned to two experimental groups and one control group. The experimental conditions incorporated 28 podcast episodes over a 17-session instructional cycle, delivered either individually or in paired collaborative listening activities. The control group received standard listening instruction without podcasts.

Quantitative testing revealed that both podcast groups significantly outperformed the control group on listening comprehension and vocabulary assessments, confirming that podcast exposure can produce measurable gains in language proficiency. Interestingly, the *collaborative listening group showed even stronger vocabulary performance*, although gains in listening comprehension were statistically similar between individual and peer groups. These findings suggest that *interaction around podcast content* enhances engagement and deeper processing of new vocabulary, possibly because paired learners discussed meanings and negotiated linguistic forms.

### **Barriers for adoption and long-term sustainability of podcast lessons in IDP camp in Northern Nigeria.**

#### **Infrastructure and Connectivity Barriers**

One of the most significant barriers to adopting podcast lessons in Northern Nigerian IDP camps is the lack of reliable infrastructure required to access and consume digital educational content. Podcasts typically require devices and either stable internet connectivity or periodic data access to download audio files. In Nigeria, digital integration in education is impeded by unstable electricity supply, inadequate internet infrastructure, and limited access to devices, which constrain the delivery of technology-dependent learning solutions (Irele, 2022; UNESCO, 2020). Power outages and poor broadband penetration in rural and crisis-affected areas make it difficult for displaced learners to maintain consistent engagement with podcast content (Adeoye et al., 2020; Blimpo & Cosgrove-Davies, 2019).

#### **Digital Literacy and Skills Gaps**

Even where devices and connectivity exist, many displaced learners and their caregivers lack the digital skills needed to engage effectively with educational technology. Research indicates that both displaced populations and host communities may have insufficient digital literacy, hindering their ability to navigate mobile learning platforms, download and play audio files, and troubleshoot basic technical challenges (EdTech Hub, 2025). This barrier is echoed in broader contexts where educational technology adoption is limited by low proficiency with digital tools among educators and learners alike (Barnes & Katrin, 2025).

#### **Educational Ecosystem and Support Structures**

Podcast lessons are often more effective when integrated into supportive educational ecosystems with facilitation, curricula alignment, and instructional guidance. In displacement

settings, formal educational structures are frequently weak or absent, with limited access to schools, teachers, and learning frameworks (EdTech Monday Show, 2023). Without these foundational components, podcasts risk being supplementary rather than central to learning, which undermines both adoption and long-term sustainability. Additionally, research in forced displacement contexts highlights that technology alone cannot substitute for pedagogical support and localized adaptation (West, 2023).

### **Socio-Economic and Cultural Barriers**

Socio-economic pressures in IDP camps, such as the need to secure basic survival needs (food, shelter, safety), often take precedence over educational engagement. Displaced households may prioritize immediate livelihood activities over consistent participation in optional learning opportunities like podcasts (World Bank, 2022). Cultural norms and language diversity in Northern Nigeria also complicate the production of relevant, accessible content; learners may disengage if lessons are not tailored to local languages and contextual realities (Irele, 2022).

### **Institutional and Sustainability Challenges**

Long-term sustainability of podcast lessons is also constrained by short-term funding cycles, weak coordination among humanitarian actors, and lack of integration into national or local education strategies. Many digital learning initiatives in displacement contexts rely on external donor support without robust plans for local adoption and scalability, limiting their longevity once initial project funding ends. Effective integration into broader educational responses is essential for sustained impact (EdTech Hub, 2025).

### **Best Practices for Implementing Podcast-Based or Audio-Assisted Learning**

Implementing podcast-based or audio-assisted learning in low-resource and humanitarian settings, such as IDP camps, requires adherence to several best practices to ensure effectiveness and sustainability. First, audio content should be carefully aligned with curriculum objectives so that podcasts reinforce rather than replace classroom instruction, promoting coherence with textbooks, lesson plans, and assessments (Abdulraheem, 2025; Saeedakhtar et al., 2021). Lessons are most effective when delivered in short, structured episodes that are easy to follow and replay, allowing learners to digest information and teachers to plan complementary activities.

Interactive engagement further enhances learning. Integrating discussions, collaborative exercises, summaries, and reflective prompts encourages deeper comprehension, vocabulary retention, and communication skill development (Chaudhury et al., 2021). Successful deployment also depends on training for both teachers and learners. Brief orientation sessions on accessing, playing, and using audio materials increase confidence, while teachers benefit from guidance on lesson alignment, facilitation, and basic content management (Hennessy et al., 2022).

Podcasts should also encourage self-directed learning by providing flexible access, allowing learners to engage during commuting, chores, or study breaks, which strengthens autonomy and retention (Fisher et al., 2021). They can supplement limited instructional time, ensuring continuity in contexts with irregular schedules or teacher shortages (Yeh et al., 2022). Cultural relevance is essential; incorporating local voices, storytelling, and familiar narratives improves comprehension, motivation, and learner engagement (Chaudhury et al., 2021).

Ensuring content quality and safety is crucial. Teachers should curate audio lessons to maintain accuracy, age-appropriateness, and reliability (Abdulraheem, 2025). Feedback mechanisms allow learners to influence episode length, pace, and difficulty, supporting continuous improvement. Finally, combining podcasts with low-tech tools such as worksheets, picture cards, or guided notebooks strengthens comprehension and ensures inclusion for learners with limited device access (Saeedakhtar et al., 2021).

Here's a detailed discussion of the feasibility, recommendations, and conclusion for the study, humanized, implementable, and grounded in the context you provided:

### **Discussion on Feasibility of Podcast-Based Learning in IDP Camp Schools of Northern Nigeria**

Implementing podcast-supported learning in Northern Nigerian IDP camps appears technically and operationally feasible but requires careful contextual adaptation. Mobile phones and shared audio devices are widely available, while radios remain a common household technology, making audio-based lessons accessible even with intermittent electricity and limited internet (GSMA, 2022; Van Wyk & Vosloo, 2020). Short, preloaded episodes can bypass connectivity constraints, allowing learners to engage asynchronously, while solar-powered chargers can mitigate power supply challenges.

Operationally, podcasts are compatible with flexible lesson schedules, temporary classrooms, and high student-to-teacher ratios. Structured 10–20-minute episodes can fit into irregular school hours and support group listening sessions, reducing teacher workload while maintaining instructional quality (Mendenhall et al., 2021). Teachers' willingness to adopt podcasts depends on perceived usefulness, ease of integration, and digital confidence. Low-tech audio tools align with current skill levels, but targeted professional development is essential to ensure proper lesson facilitation, content alignment, and classroom management (Hennessy et al., 2022).

Socially and culturally, audio lessons are well-suited for displaced communities. Oral traditions in Northern Nigeria enhance acceptance of storytelling-based lessons, while cultural and language relevance fosters learner motivation (Chaudhury et al., 2021). Engagement increases when parents, camp leaders, and teachers understand the educational benefits, supporting adoption. Gender-sensitive approaches can address differential access to devices among boys and girls.

Barriers include inconsistent access to devices, competing household priorities, and limited formal instructional support. Sustainability is also dependent on integration into broader educational frameworks and long-term coordination among humanitarian actors to maintain content quality and continuity (EdTech Hub, 2025; West, 2023).

### **Conclusion**

Podcast-based learning presents a practical, culturally aligned, and low-cost solution to educational disruptions in Northern Nigerian IDP camps. Its technical and operational feasibility is supported by widespread access to mobile devices and radios, while short, structured episodes can fit irregular teaching schedules. Learners benefit from flexible, replayable content, and teachers can use podcasts to supplement limited instructional capacity.

Successful implementation, however, hinges on teacher preparedness, digital literacy, content alignment with curricula, and community acceptance. By integrating podcasts into existing educational frameworks, providing training and low-tech reinforcement tools, and prioritizing cultural relevance, stakeholders can create a sustainable model that enhances learning continuity, fosters engagement, and improves educational outcomes for displaced children.

### Recommendation

1. **Curriculum Alignment:** Design podcast content to complement classroom instruction and learning outcomes, avoiding stand-alone lessons.
2. **Short, Structured Episodes:** Use brief, clear, and replayable lessons to match attention spans and irregular schedules.
3. **Interactive Follow-Up Activities:** Pair podcasts with group discussions, quizzes, and reflective tasks to reinforce learning.
4. **Teacher Training:** Provide context-sensitive professional development for lesson facilitation, audio management, and low-tech integration.
5. **Flexible Access for Learners:** Enable offline, portable use of podcasts to encourage self-directed learning during downtime.
6. **Cultural Relevance:** Incorporate local languages, narratives, and familiar voices to improve motivation and comprehension.
7. **Parental and Community Engagement:** Sensitize caregivers and camp leaders about the educational benefits of audio-based learning.
8. **Content Quality Control:** Review and curate lessons to ensure accuracy, age appropriateness, and reliability.
9. **Feedback Mechanisms:** Collect learner and teacher input to continuously improve pacing, content, and engagement strategies.
10. **Low-Tech Reinforcement:** Supplement audio lessons with printed worksheets, visual aids, or guided notebooks to accommodate learners with limited digital access.

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