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ADVOCACY FOR INTEGRATING AI INTO THE MUSIC CURRICULA OF NIGERIAN TERTIARY INSTITUTIONS

Abstract

Artificial Intelligence (AI) is currently a global phenomenon, enhancing human intelligence through technological advancements that enable machines to perform tasks, and requiring human cognition. Integrating AI into the music curriculum of Nigerian tertiary institutions presents transformative opportunities for advancing music education, particularly in response to the current educational system that address several challenges of resource limitations, difficulties in illustration and citation, constraints on students' abilities and potential, limited opportunities for practice, and inadequate exposure to global music trends. This research collected data through electronic review of existing literature on AI in music, focusing on global trends and their relevance to the Nigerian context. Utilizing a quantitative research approach and grounded in Kolb's Experiential Learning Theory (1984), this study highlights the enriching potential of AI tools such as Sibelius, Amper Music, MusNet, AIVA, and others. These tools foster interactive learning in music theory, composition, performance, and history, while also enhancing students' skills in music education. Additionally, they encourage creativity through AI-assisted composition and sound design, and facilitate interdisciplinary applications that merge music with coding and data science. Therefore, this research advocates that integrating AI tools into Nigeria's higher education music curriculum will significantly enhance creative expression, and also prepare students for the evolving demands of the 21st-century music industry.

Keywords: Artificial intelligence, Music Education, Curriculum, Nigerian Tertiary institutions.

Introduction

Curriculum is a standard-based sequence of planned experiences where students practice and achieve proficiency in content and applied learning skills, (Rhode Island Department of Education. (2023). Curriculum is the central guide for all educators as to what is essential for teaching and learning. According to Merriam-Webster dictionary (2025), curriculum is a Latin word that means “a course of study”. Also, from the account of Aguokogbou (2000) as cited by Babalola et al. (2022), curriculum is a planned experience with an intended learning outcome that is developed through systematic knowledge to address all the necessary needs of the learner's outcome. According to Nation & Macalister (2010), curriculum is a guide in designing courses that consists of Principles that involve practical and theoretical considerations that will have a major effect in guiding the actual process of course production. In tertiary institutions, Aliyu et al. (2018) describe curriculum as a set of courses constituting an area of specialization, involving its content, objectives, and learning procedures.

In light of this, music program is an area of specialization which formally began in 1961, with the establishment of the Department of Music at the University of Nigeria, Nsukka (UNN). It was the first university in the country to offer a degree program in music. And later in 1970s and 1980s, other institutions like the University of Ife (now Obafemi Awolowo University), University of Lagos, and University of Ibadan followed suit. The curriculum was introduced by missionaries in the form of church choirs and hymn singing to suit the interest of the colonial masters. However, The Nigerian Universities Commission (NUC) in late 1980s, later developed benchmark standards for music programs, ensuring a blend of theoretical, practical, and ethnomusicological content, which is basically implemented in the traditional way of teaching and learning through the approach of using pen and paper or marker boards. The challenges of these approach resulted with limitations to instructional materials, and references in this present global trend of Artificial Intelligence

The evolving system of education in the 21st century has witnessed an increase in the integration of technology into academic disciplines, reshaping traditional teaching and assessment methods. In music education, Artificial Intelligence (AI) offers a transformative approach to teaching, learning, and evaluation, particularly in tertiary institutions. AI's ability to analyze large data sets, adapt to individual learning needs, and provide objective feedback positions it as a vital tool for advancing music education. For Nigerian tertiary institutions, where several challenges such as limited resources, outdated teaching methods, and subjective assessment practices persist, integrating AI into the music curriculum and assessment will present an opportunity to

modernize and globalize music education in Nigerian tertiary institutions (Poole & Mackworth, 2017).

Similarly, many institutions struggle to keep pace with global advancements in music technology and pedagogy. AI-powered tools can address these gaps by offering interactive and personalized learning experiences in areas such as music theory, composition, instrumental training, and music history. Moreover, AI's role in fostering creativity and interdisciplinary exploration aligns with the need to prepare students for diverse careers in the evolving global music industry. Therefore, the traditional methods of teaching music and assessment, which are often based on subjective judgment, do not provide empirical capabilities of students' progress. However, AI tools can monitor student progress over time, and provide empirical capabilities of students' advancement, and offer valuable insights for music educators. This paper advocates for the integration of AI into the music curriculum of Nigerian tertiary institutions, by examining its potential benefits, challenges, implications, and enhance the qualities global contributions for the future of music education in Nigeria.

Statement of the Problem

Several challenges and limitations have been observed with the current music curriculum in Nigerian tertiary institutions, such as resource limitations, difficulties in illustration, constraints on students' abilities and potential, limited opportunities for practices, and inadequate exposure to global music trends. This has prompted individuals to embrace AI through different devices with personal efforts, but the integration to formalise the use of AI into the curriculum of Nigerian tertiary institutions is yet to be formally structured for implementation and assessment. This paper advocates that artificial intelligence should be formally integrated into the music curriculum of Nigerian tertiary institutions to bridge the gap of these learning challenges.

Methodological Approach

This study adopts a quantitative research approach based on an electronic review of existing literature to examine global trends in Artificial Intelligence (AI) in music and assess their relevance to the Nigerian context. The methodology is structured as a systematic quantitative literature review, enabling objective analysis of patterns, frequencies, and measurable indicators within published scholarly works.

Data were collected through an extensive electronic search of reputable academic databases, including Google Scholar, Scopus, Web of Science, ERIC, and JSTOR. Additional sources such as conference proceedings, institutional reports, and peer-reviewed journals on music technology and AI were also consulted. Keywords and Boolean operators such as “Artificial Intelligence in music,” “AI and music education,” “music technology,” “computational music,” and “AI in African/Nigerian music” were used to retrieve relevant studies published between 2015 and 2024.

Inclusion criteria focused on empirical and theoretical studies that addressed AI applications in music composition, performance, education, analysis, and production. Studies unrelated to music, non-scholarly sources, and publications without clear methodological rigor were excluded. The selected literature was coded and categorized based on variables such as year of publication, geographical focus, AI application area, research design, and reported outcomes.

Findings were interpreted within Nigeria's socio-cultural, educational, and technological realities to ensure contextual relevance. This methodological approach ensures systematic data collection, objectivity, while providing a robust empirical foundation for understanding AI's evolving role in music curriculum of Nigerian tertiary institutions.

Theoretical Framework

This research is grounded in Kolb's Experiential Learning Theory (1984), as cited by Nagel et al. (2024), the authors noted that Experiential Learning theory is a learning approach that emphasizes that learning is cordially effective through direct experience and thinking reflection. In studying AI integration into Nigeria's tertiary music curriculum, Experiential Learning theory provides a powerful framework through four strategic stages:

Concrete Experience: Students directly engage with AI music tools like composing with AI assistants, generating beats, or analyzing traditional Nigerian music patterns through machine learning algorithms.

Reflective Observation: Learners critically examine their AI interactions, questioning how these tools affect creativity, cultural authenticity, and their understanding of indigenous musical forms like Afrobeat or Highlife.

Abstract Conceptualisation: Students develop theories connecting AI capabilities with pedagogical goals, exploring how technology can preserve Nigerian musical heritage while fostering innovation.

Active Experimentation: They apply insights by designing AI-enhanced lesson plans, creating hybrid compositions blending traditional and AI-generated elements, or proposing curriculum modifications.

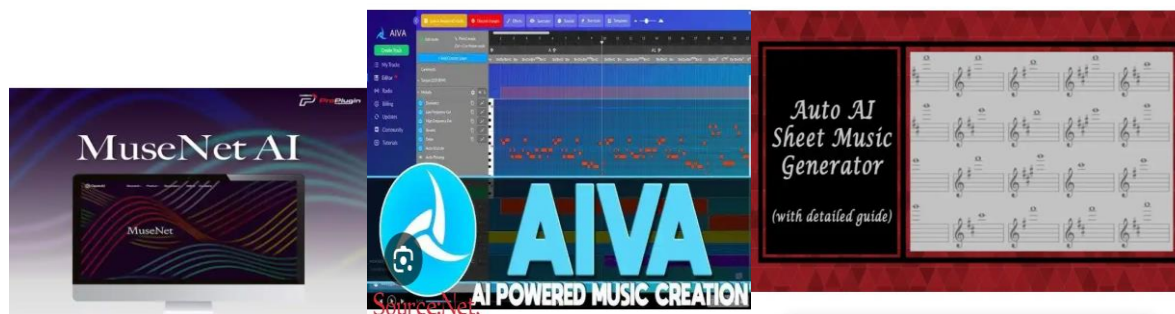
This strategic process ensures that this research is not merely theoretical but grounded in authentic experiences of Nigerian music educators and students, revealing practical challenges and opportunities in harmonizing cutting-edge technology with rich cultural traditions. Therefore the researcher considers this theory appropriate to advocate for the integration of AI into the music curriculum of Nigerian tertiary institutions to bridge the gap in challenges of direct citations and illustration, and to enhance students' critical thinking reflections.

An overview of Artificial Intelligence

AI is a branch of computer science focused on creating machines or software that can perform tasks that typically require human intelligence (Baranov, 2023). Artificial intelligence is a certain set of methods, means and technologies, primarily computer ones, that imitate (model) cognitive functions that have criterias, characteristics indicators of the corresponding cognitive functions of a person. In light of this, the digital age has transformed musical creation, analysis, and learning through AI-driven tools such as AIVA, MuseNet, and Amper music adaptive compositional systems, intelligent tutors, and generative models. Peter Okebukola's opening speech in 2025, at the ceremony of the annual conference of the Society of Music Educators of Nigeria (SOMEN), it was obvious that AI-based reforms can enhance music education and boost enrollment in music programs in Nigeria.

Artificial Intelligence in music involves the use of algorithms and computational models to simulate tasks typically performed by human musicians and enhance both the creative and instructional dimensions of music. Such tasks include:

Composition and Arrangement: AI systems like AIVA, MuseNet, and Amper Music generate original compositions.



Performance: AI tools assist in real-time accompaniment, tempo adjustments, and expression analysis. AI applications like Amper, AIVA, and MuseNet revolutionize performance training in Nigerian tertiary music programs. AIVA generates accompaniment tracks in various styles, allowing students to practice with full orchestral backing when live musicians are unavailable—particularly valuable given resource constraints in many Nigerian institutions. MuseNet creates diverse genre combinations, enabling performers to explore fusion pieces blending traditional Nigerian rhythms with contemporary styles. Students can request specific tempo variations, key changes, and dynamic ranges to challenge their technical skills progressively.

These tools provide immediate practice partners for solo instrumentalists and vocalists, eliminating scheduling conflicts with accompanists. Performance majors can experiment with improvisation over AI-generated chord progressions, developing spontaneity and adaptability. Amper allows students to customize backing tracks for recitals, adjusting instrumentation to

complement their voice or instrument. This democratizes access to quality practice materials, ensuring even students in under-resourced institutions can develop professional-level performance skills with varied, sophisticated musical accompaniment.

Music Analysis: Machine learning aids in genre classification, pattern recognition, and sentiment analysis. AI tools transform music analysis from abstract theory into interactive exploration. MuseNet deconstructs compositions, revealing harmonic progressions, voice leading, and structural patterns that students can examine in real-time. When analyzing complex works from Bach fugues to Fela Kuti's Afrobeat arrangements for students input pieces into these systems to visualize chord structures, melodic contours, and rhythmic patterns.

AIVA enables comparative analysis by generating variations of existing compositions, helping students understand how different harmonic choices affect emotional impact. Students can analyze why certain progressions evoke specific feelings in Nigerian popular music versus Western classical traditions. Amper assists in genre analysis by producing examples across multiple styles, allowing students to identify distinguishing characteristics of Highlife, Juju, or Fuji music computationally.

These tools make abstract analytical concepts tangible. Students engage in "reverse engineering," inputting Nigerian folk melodies to discover underlying modal systems, or comparing AI interpretations of traditional songs with original versions, deepening cultural and theoretical understanding simultaneously.

Music Education: Platforms such as SmartMusic and Yousician offer AI-driven personalized learning experiences where several illustrations and examples can be employed to enhance the learning qualities and student's achievements. In other words, for music education trainees to become teachers, AI applications offer unprecedented pedagogical resources. AIVA creates customized exercises targeting specific learning objectives—generating ear training sequences, sight-reading materials, or rhythm drills at appropriate difficulty levels for different student abilities. Future educators learn to leverage technology for differentiated instruction, crucial in Nigeria's diverse classroom environments.

MuseNet serves as a composition assistant for developing teaching materials that reflect Nigerian musical heritage. Education students can generate examples demonstrating music theory concepts using indigenous scales and rhythmic patterns, making lessons culturally relevant. Amper produces background music for educational videos, dramatizations, or multimedia presentations without copyright concerns.

These tools teach prospective educators to integrate technology meaningfully rather than superficially. Students develop skills in curriculum design that balances traditional pedagogy with innovative approaches, preparing them to train the next generation with both cultural grounding and technological fluency—essential for Nigeria's evolving educational landscape.

Composition and Arrangement: AI dramatically expands compositional possibilities for Nigerian music students. AIVA functions as a collaborative partner, suggesting harmonic progressions when composers experience creative blocks, or generating multiple variations of melodic ideas for comparison. Students compose original works while learning from AI suggestions, understanding why certain choices work musically.

MuseNet excels in arrangement, taking simple melodies—perhaps traditional Nigerian folk tunes—and orchestrating them for various ensembles, from string quartets to full symphonies. Composition students study these AI arrangements, learning orchestration techniques and instrumental ranges practically. Amper accelerates the production process, allowing students to hear their compositions with realistic instrumentation immediately, rather than waiting for live performances.

These tools democratize advanced composition training. Students experiment with complex textures and large ensemble writing without requiring access to orchestras. They explore fusion compositions merging traditional Nigerian instruments with Western orchestration, fostering innovation while respecting cultural roots. AI feedback loops accelerate learning, helping students develop sophisticated compositional voices efficiently.

Music Production and Technology: In production courses, these AI tools bridge the gap between traditional musicianship and modern industry demands. Amper teaches production workflows by allowing students to manipulate pre-generated tracks—adjusting mixing parameters, adding effects, and understanding signal flow in digital audio workstations. Students learn production aesthetics by comparing AI-generated mixes with professional recordings of Nigerian artists.

AIVA assists in soundtrack creation for film, advertising, and media projects—growing industries in Nigeria's entertainment economy. Production students learn to brief AI systems with creative directions, then refine outputs to meet client specifications, mirroring professional workflows. MuseNet generates reference tracks for production planning, helping students conceptualize arrangements before recording live musicians.

These applications teach students to integrate AI into professional production pipelines. They learn when human creativity is irreplaceable versus when AI efficiency is appropriate, developing critical judgment essential for Nigeria's competitive music industry. Students graduate understanding both artistic and technological dimensions of modern music production.

Music Theory: AI applications provide powerful research and analytical tools for theory students. MuseNet's vast training dataset allows students to explore how musical styles evolve, comparing baroque counterpoint with contemporary Nigerian gospel music's harmonic language. Theory students test hypotheses by generating compositions following specific theoretical

constraints, immediately hearing whether their theoretical understanding produces musical results.

AIVA helps students understand form and structure by generating pieces in various classical forms, such as sonatas, rondos, theme and variations—then analyzing the results against theoretical models. Musicology students use these tools to reconstruct lost or fragmentary historical Nigerian compositions, exploring what traditional pieces might have sounded like with complete instrumentation.

Amper assists in ethnomusicological research by generating stylistic variations, helping students identify essential versus variable characteristics of Nigerian musical traditions. Students develop computational musicology skills, using AI to analyze large corpora of traditional songs, identifying regional variations and historical developments in Nigerian music that manual analysis might miss.

Benefits of Integrating AI into Music Curriculum

Personalised Learning Experiences

AI-powered learning systems such as smart tutors and adaptive apps can tailor instruction based on each student's strengths, weaknesses, and pace of learning. This will also increase students' engagement and motivation with a complex avenue of mastering music theory or instrument skills through targeted practice.

Enhancement of Creativity and Music Composition

AI tools such as AIVA, Amper, MuseNet, and Suno help students to explore composition, arrangement, and orchestration by generating original music based on user inputs, and also supports non-traditional and experimental music creation. Gündoğdu & Okcu (2024) also emphasised that these technologies are opening up new perspectives on both the creative and technical aspects of music and are playing a decisive role in its evolution, and inspire creativity in both beginners and advanced learners, and also encourages cross-genre and cross-cultural compositions in music.

Improved Access to Music Resources

AI can provide digitalised assistance and make accessible vast music archives for scores, audio files, and performance analytics, and also facilitates inclusive access to global music heritage by reducing the cost of textbooks and physical visits to music libraries.

Efficient Teaching and Administrative Processes

AI can assist lecturers with automating tasks like grading, giving feedback, transcribing music, or analyzing students' compositions, which can also help to save time and increase productivity in teaching evaluation, and enable lecturers to focus on mentorship and performance coaching.

Exposure to Modern Music Technology and Industry Standards

Integrating AI will prepare students for careers in modern music fields such as digital music production, sound design, AI-assisted scoring, and music data analytics, which will drastically increase the chance for more employment in the global music industry, and embrace interdisciplinary careers in music and computer science, aligning with global digital economy trends.

Support for Indigenous Music Research and Preservation

AI can assist in analyzing, cataloging, and reconstructing traditional Nigerian music, rhythms, and instruments to a modern structure of African music that will support indigenous identity in global music scene, and embrace cultural preservation in academic research.

Therefore, benefits and contributions of AI to music education will open new opportunities for musicians, listeners and the music industry by integrating creativity with technical processes. AI applications in the field of music reduces several challenges and burdens, especially for composers in the music industry, and other aspects for new innovations, new development, and modern exposures in terms of creating music and music education.

Challenges for AI Integration

Inadequate Infrastructure and Technology Access

Findings shows that Nigerian tertiary institutions lack basic digital infrastructures such as high-speed internet, electricity, up-to-date computers, and digital audio labs, which may enhance limited access to devices for students and staff, Poor internet bandwidth for cloud-based AI tools, and Insufficient smart classrooms or music technology labs.

Insufficiency of Trained Personnel and Faculty Readiness

Music lecturers and instructors may have limited exposure to AI, programming, or digital music technologies, which cost low digital literacy among faculty members, resistance to adopting new technology due to unfamiliarity or fear of job replacement, scarcity of training programs that will focus on AI for music education.

High Cost of AI Tools and Software Licensing

Many AI-based tools such as AIVA, Logic Pro X with AI plugins, or AI transcription software are expensive or require recurring expensive subscriptions. This may result in budget limitations

in public institutions, difficulties in securing funding to pilot programs, and dependences on foreign-owned platforms to exhibit some institutions' activities.

Curriculum Rigidity and Bureaucratic Delays

The curriculum approval process by the National Universities Commission (NUC) and other governing bodies are often slow and resistant to rapid innovation. This may result in slow policy response to emerging technologies, lack of clear frameworks for integrating AI into existing music curricula, insufficient interdisciplinary collaboration, such as music and computer science departments,

Sustainability and Maintenance Issues

Once AI systems are introduced, they will require regular updates, support, and maintenance, which often requires local shortage of skilled tech support within music departments, dependency on foreign vendors for upgrades, and risk of abandoned systems after pilot phases due to lack of funding.

Discussion of findings

The existing music curriculum in Nigerian tertiary institutions predominantly reflects a colonial-era framework inherited from British educational models, emphasizing Western classical music theory, performance practice, and historical musicology (Omojola, 2012). Most universities offer programs structured around traditional disciplines: music theory, harmony and counterpoint, orchestration, ethnomusicology, and performance studies focused on voice, piano, and orchestral instruments (Onyeji, 2013). The curriculum typically includes courses in African music studies, acknowledging Nigeria's rich musical heritage including Highlife, Afrobeat, Juju, and various traditional forms, yet pedagogical approaches remain largely theoretical rather than practice-based (Vidal, 2012).

Nigerian music programs face significant structural limitations. Akuno (2018) identifies inadequate technological infrastructure, outdated teaching methodologies, and curricula disconnected from Nigeria's vibrant contemporary music industry as critical deficiencies. While Nigeria produces globally recognised artists in Afrobeats, gospel, and hip-hop, university music programs struggle to equip graduates with skills relevant to these industries (Emielu, 2011). The gap between academic training and professional practice creates graduates unprepared for careers in music production, audio engineering, film scoring, and digital content creation, and areas where Nigeria's creative economy is rapidly expanding.

Several critical deficiencies characterize current Nigerian music curricula. First, technology integration remains minimal or absent in most institutions. Nzewi (2007) argues that African music education has failed to embrace technological advancement, resulting in graduates lacking digital literacy essential for contemporary musicianship. Music production software, digital

audio workstations, and computer-assisted composition tools are rarely incorporated systematically into coursework, leaving students technologically disadvantaged compared to international peers.

Second, entrepreneurial and industry-focused training are insufficient. Nigerian music graduates possess strong theoretical foundations but lack practical business skills into copyright management, music marketing, studio management, and digital distribution that are necessary for sustainable careers (Herbst et al., 2017). The curriculum emphasises performance and scholarship over commercial viability, misaligning with realities of Nigeria's music marketplace.

Third, interdisciplinary connections remain underdeveloped. Music programs operate in isolation from computer science, engineering, business, and media departments, missing opportunities for collaborative innovation (King et al., 2016). This poor approach prevents students from engaging with emerging fields like music information retrieval, computational musicology, and music technology entrepreneurship.

In light of this, AI applications will offer transformative potential for addressing these deficiencies across multiple curricular domains. In composition and arrangement courses, tools like AIVA and MuseNet can democratize advanced compositional training. Berklee College of Music has pioneered AI integration in composition pedagogy, where students use AI as collaborative partners, generating harmonic suggestions and orchestral arrangements while maintaining creative control (Carnovalini & Rodà, 2020). This model is particularly relevant for Nigerian institutions lacking resources for large ensembles, enabling students to hear fully orchestrated versions of their compositions immediately.

Furthermore, Performance practice can be revolutionised through AI-generated accompaniment and practice tools. The Royal College of Music, London, implemented AI practice partners that adjust tempo and dynamics responsively, allowing students individualized rehearsal experiences (Sturm et al., 2019). For Nigerian institutions where hiring accompanists is financially prohibitive, such tools provide equitable access to quality practice resources. Students can explore diverse repertoires from Western classical to Nigerian traditional music, with appropriate stylistic accompaniment.

Music analysis and theory courses benefit significantly from AI's pattern recognition capabilities. Georgia Tech's Music Intelligence Lab demonstrates how machine learning algorithms help students visualize harmonic progressions, identify formal structures, and compare stylistic characteristics across genres (Briot et al., 2020). Nigerian students could apply these analytical tools to indigenous music, computationally documenting characteristics of regional styles and preserving cultural knowledge systematically.

Music production and technology represents perhaps the most critical area for AI infusion. New York University's Steinhardt School integrates AI-assisted mixing, mastering, and sound design

into production curricula, preparing graduates for industry-standard workflows (Pardo et al., 2019). Nigerian institutions should establish similar programs, training students in AI-augmented production techniques essential for competitive participation in global music markets.

In addition, while preserving cultural and theoretical foundations, certain curricular elements require critical reevaluation. Excessive emphasis on Western classical repertoire, particularly obscure Baroque and Romantic period works with limited relevance to Nigerian contexts could be reduced, reallocating time toward contemporary composition, popular music studies, and technology-focused courses (Okafor & Okafor, 2009). This does not advocate for eliminating classical training entirely but rather balancing it appropriately with Nigeria's musical realities.

Redundant theory courses repeating content across multiple semesters could be consolidated and restructured, integrating technology throughout rather than treating it as separate elective courses. The Queensland Conservatorium, Australia, successfully redesigned music theory sequences incorporating digital tools and composition software from introductory levels, demonstrating efficiency gains and improved student engagement (Demorest et al., 2017).

Similarly, Singapore's Nanyang Academy of Fine Arts provides an instructive model for developing nations. Facing similar resource constraints, they implemented phased AI integration beginning with affordable, cloud-based tools before investing in advanced infrastructure (Tobias, 2021). Their curriculum combines traditional Asian musical heritage with cutting-edge technology, demonstrating cultural preservation and innovation need not conflict.

South Africa's University of Cape Town offers another relevant case study. Their music technology program emphasizes locally relevant applications, using AI to document and analyse indigenous African musical traditions while training students in commercial production skills (Mans, 2009). This dual focus on cultural preservation and industry preparation mirrors Nigeria's curricular needs.

Also, Estonia's, e-Estonia digital education initiative demonstrates how national-level policy coordination accelerates technology adoption. Government investment in digital infrastructure, combined with mandatory digital literacy across all educational levels, created conditions for rapid AI integration in arts education (Rozeik & Lavonen, 2018). Nigeria could adapt this model, through federal coordination to ensure equitable AI access across institutions.

Finally, Nigerian tertiary music education stands at a transformative crossroads, caught between rich cultural heritage and the relentless demands of a digitalised global music industry. The current curriculum is a recap of colonial-era British models, emphasizes Western classical traditions while inadequately preparing graduates for Nigeria's booming Afrobeats, gospel, and film music industries, and a profound disconnect that leaves talented musicians artistically skilled unprepared.

The irony is striking: Nigeria exports globally celebrated artists like Burna Boy and Wizkid, yet university music programs remain trapped in outdated pedagogies, teaching 18th-century European counterpoint while students' smartphones contain more music production power than studios possessed two decades ago. This present curriculum-industry represents not only merely an educational failure, but also an economic missed opportunity in Africa's fastest-growing creative sector.

AI integration will offers revolutionary solutions to endemic problems. Where Nigerian institutions lack orchestras, AIVA and MuseNet provide virtual ensembles, democratising compositional training. Also, AI-generated practice partners will offer unlimited, responsive rehearsal support. Where traditional music documentation relies on scattered ethnographic recordings, machine learning algorithms can systematically analyse and preserve thousands of indigenous songs, protecting cultural heritage while making it academically accessible.

International case studies illuminate viable pathways forward. Singapore's Nanyang Academy demonstrates how resource-constrained institutions can implement phased AI adoption, beginning with affordable cloud-based tools before major infrastructure investments. South Africa's University of Cape Town proves that technology and cultural preservation are complementary, not contradictory, using AI to document African musical traditions while training commercially competitive producers. Estonia's national digital education initiative shows how government coordination accelerates equitable technology access across institutions, preventing digital divides between well-funded and under-resourced universities.

Strategic curriculum revision must balance preservation and innovation. Reducing excessive Western classical emphasis creates space for music production, entrepreneurship, and technology courses addressing real-world career demands. Interdisciplinary collaborations between music and computer science departments can spawn innovation hubs developing AI tools specifically designed for African musical contexts, imagine machine learning trained on Yoruba drumming patterns or algorithms generating Highlife chord progressions.

Therefore, the stakes extend beyond academic reform. Nigeria's creative economy could become Africa's technological and artistic powerhouse, exporting not just musical talent but music education models and AI applications designed for African contexts. Graduates equipped with both cultural grounding and technological fluency become cultural ambassadors and technological innovators simultaneously.

The question is not whether Nigerian music education should embrace AI, but whether it can afford not to. In an industry where yesterday's impossibilities become today's standard practices, educational institutions must lead transformation rather than lag behind it. The future of Nigerian music education demands bold reimagination, honoring ancestral traditions while fearlessly

embracing tools that amplify creativity, preserve heritage, and prepare students for careers in a digital, globalised musical landscape.

Recommendations

To successfully integrate AI into Nigeria's tertiary music curriculum, a comprehensive approach is required. Such as Curriculum revision should be prioritised as the foundational step, requiring music departments to update their programs by incorporating AI-related courses and modules that align with both traditional musicianship and contemporary technological demands. These modules should address practical AI applications in composition, performance, analysis, and production, ensuring graduates possess skills relevant to Nigeria's evolving music industry.

Capacity building represents a critical component of successful implementation. Music educators themselves must first understand AI's potential and limitations before effectively teaching students. Institutions should organise regular training workshops and professional development programs where faculty members gain hands-on experience with AI music tools like AIVA, MuseNet, and Amper. These workshops should emphasize pedagogical strategies for integrating AI meaningfully by helping educators maintain the balance between technological innovation and cultural preservation of Nigerian musical heritage.

Infrastructure investment remains perhaps the most challenging yet essential recommendation, particularly given resource constraints in many Nigerian institutions. Universities should actively pursue partnerships with technology companies, educational NGOs, and international donors to secure funding for computers, software licenses, reliable internet connectivity, and AI-enabled music production equipment. These partnerships could include corporate social responsibility initiatives from tech companies seeking to expand their presence in African markets, and arts education in developing nations.

Collaborative programs between music and computer science departments offer innovative solutions that leverage existing institutional resources. Interdisciplinary programs can foster knowledge exchange where music students gain technological literacy while computer science students apply their skills to creative domains. Joint projects could include developing AI tools specifically designed for Nigerian music education, researching machine learning applications for preserving traditional music, or creating startup incubators focused on music technology entrepreneurship. Such collaboration enriches both disciplines while producing graduates with unique, marketable skill combinations.

Finally, policy formulation at the national level provides the structural framework necessary for sustainable, coordinated AI integration across institutions. The National Universities Commission, Federal Ministry of Education, and relevant accreditation bodies should develop comprehensive guidelines addressing AI integration in arts and music education. These policies should establish minimum standards for AI literacy in music programs, provide frameworks for

ethical AI use that respects intellectual property and cultural heritage, allocate government funding for technological infrastructure, and create assessment metrics for evaluating successful AI integration. National-level coordination ensures equitable access across institutions, prevents fragmentation of efforts, and signals governmental commitment to modernising creative education while maintaining Nigeria's rich musical traditions.

Summary and Conclusion

AI is drastically reshaping the contours of music creation and education globally. The use of AI tools such as AIVA, MuseNet, and Amper music adaptive compositional systems, intelligent tutors, and generative models, will foster interactive learning in music theory, composition, performance, and history, and also enhancing students' skills in music education by enable students to explore their abilities and potentials with different resources, and references. For Nigerian tertiary institutions to remain competitive and innovative, it is imperative to integrate AI into their music curricula. This will not only enhance the quality of music education but also prepare students for the evolving demands of the 21st-century music industry. Therefore, a coordinated effort by policy makers, educators, and industry stakeholders is cordially necessary to actualize this vision.

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