

ORIGINAL

Integrating Traditional African Music into Modern Education Using Digital Platform and Artificial Intelligence

Integración De La Música Tradicional Africana En La Educación Moderna Mediante Plataformas Digitales E Inteligencia Artificial

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ABSTRACT

This study examined how traditional African music might be incorporated into contemporary education, emphasizing how it affects learning, preservation of culture, and educational development. It also examined recent studies on potential, difficulties, and implementation frameworks. Modern teaching techniques must be balanced with cultural authenticity for successful assimilation. Results indicate that students' musical proficiency, cultural awareness, and cognitive abilities are all improved by traditional African music. Qualified teachers, useful instructional resources, utilization of artificial intelligence, and cultural preservation techniques are essential components of implementation. Cultural barriers, a lack of resources, and gaps in teacher preparation are still problems, but new technologies and creative teaching strategies provide answers. These problems must be addressed, especially the disparity in resources and quality of instruction between urban and rural areas. The study emphasizes how traditional African music shape's cultural identity and aids in schooling. Through an analysis of how traditional African music promotes cross-cultural competency and cultural awareness in contemporary schooling, this study makes a distinctive contribution. Curriculum design, teacher education, and policy development gaps are filled by integrating educational frameworks, technological advancements, and cultural preservation techniques. The study offers suggestions for improving resource distribution, developing programs, and creating comprehensive curriculum guidelines that combine classic and contemporary teaching approaches in order to integrate music education globally. Curriculum design, teacher preparation, and educational policy are all significantly impacted by these revelations.

Keywords: Artificial Intelligence; Preservation of Culture; Cultural Awareness; Traditional Music; Technology; Curriculum Design.

RESUMEN

Este estudio examinó cómo la música tradicional africana podría incorporarse a la educación contemporánea, haciendo hincapié en su impacto en el aprendizaje, la preservación de la cultura y el desarrollo educativo. También examinó estudios recientes sobre el potencial, las dificultades y los marcos de implementación. Las técnicas de enseñanza modernas deben equilibrarse con la autenticidad cultural para una asimilación exitosa. Los resultados indican que la música tradicional africana mejora la competencia musical, la conciencia cultural y las capacidades cognitivas de los estudiantes. Profesores cualificados, recursos didácticos útiles, el uso de inteligencia artificial y técnicas de preservación cultural son componentes esenciales de la implementación. Las barreras culturales, la falta de recursos y las deficiencias en la formación docente siguen siendo

problemas, pero las nuevas tecnologías y las estrategias de enseñanza creativas ofrecen soluciones. Estos problemas deben abordarse, especialmente la disparidad en recursos y calidad de la instrucción entre las zonas urbanas y rurales. El estudio enfatiza cómo la música tradicional africana moldea la identidad cultural y contribuye a la escolarización. Mediante un análisis de cómo la música tradicional africana promueve la competencia intercultural y la conciencia cultural en la educación contemporánea, este estudio realiza una contribución distintiva. Las deficiencias en el diseño curricular, la formación docente y el desarrollo de políticas se subsanan mediante la integración de marcos educativos, avances tecnológicos y técnicas de preservación cultural. El estudio ofrece sugerencias para mejorar la distribución de recursos, el desarrollo de programas y la creación de directrices curriculares integrales que combinen enfoques pedagógicos clásicos y contemporáneos para integrar la educación musical a nivel global. El diseño curricular, la preparación docente y las políticas educativas se ven significativamente afectados por estas revelaciones.

Palabras clave: Inteligencia Artificial; Preservación de la Cultura; Conciencia Cultural; Música Tradicional; Tecnología. Diseño Curricular

INTRODUCTION

Traditional African music still remains one of the most comprehensive educational initiatives aimed at fostering intercultural understanding and increasing students' cultural literacy. With a focus on its impacts on academic performance and cultural awareness, this study examined the prevalence and efficacy of traditional African music in educational settings in the context of social sciences and artificial intelligence.^(1,2,3,4,5,6,7,8,9) The purpose of this research was to examine the potential benefits and implications of incorporating traditional African music within the contemporary educational system based on a survey of the literature and AI by different academics. African music has tremendously influenced world music by helping to shape current musical instruments worldwide with its vast collection of digital instruments.^(10,11,12,13,14,15,16,17,18) It is evident from the development of African traditional music across time, particularly during the Han Dynasty,^(19,20,21,22,23,24) that there has never been a time when it has stalled. Buddhism was brought over from India during the Han Dynasty, and new instruments for music and styles also appeared.^(25,26,27,28,29,30,31)

In African culture, music in particular serves as a creative, social, and educational medium, according to statistics, traditional African music has grown in popularity.^(32,33,34,35) By 2029, there will be 105 million listeners, although the market penetration rate is predicted to drop from 8,4 %, 7,4.^(36,37,38,39,40,41)

The industry's commercial viability of cultural conservation is demonstrated by its average revenues per user (ARPU), which is at USD 10,44.^(24,42,43,44,45,46) Africa's contemporary music market has grown quickly; by 2021, it will be worth 378,8 billion Yuan, and by 2023, there will be 63 million active music app users.^(40,47,48) This expansion is a result of the effective blending of old ideas with modern ideas for the development of national identity, cultural legacy, and creative expression.^(41,49,50,51,52,53,54)

Purpose of the Study

The purpose of the study was to identify and evaluate the integration of traditional African music into modern educational institutions and provide an overview of the progress made in teaching traditional African music in order to improve comprehension of how this type of instruction is used in modern educational systems.

Research Objectives

- i. To evaluate how integrating traditional African music into the current educational systems affects students' cognitive abilities, sensitivity to culture, and musical aptitude.
- ii. To investigate the primary problems associated with learning and instruction traditional African music education, as well as the associated problems with resource use, teacher preparation, and cultural factors
- iii. To comprehend how technology can facilitate the integration of African music into contemporary education, with an emphasis on the technologies that are currently available and efficient teaching strategies.

Significance of the Study

Traditional African music contributes to the characters' economic development and sense of national identity in addition to its cultural significance. As a result, African music's future is secure since traditional music remains alive and very important in African culture, serving as a bridge between the past and present and a catalyst for creativity and cross-cultural interaction.

Scope of the Study

In the context of internationally taught music, this study examined several perspectives on traditional African music, with a focus on teaching strategies that promote intercultural understanding, engagement, cultural interchangeability and artificial intelligence in music. African folk songs convey not just the people's sentiments and moral values, but also historical details. Students all throughout the world can thus learn about a rich musical heritage that has impacted Africa for millennia by studying traditional African music.⁽³⁰⁾

LITERATURE REVIEW

Historical Context of Traditional African Music

In African history, the dynastic periods can be used to categorize the development of African music. Expanding up Africa music to complementary world music and establishing musical performances were the Han's most fruitful contributions to the development of music.⁽³⁰⁾ Buddhism from Hinduism around the Han Dynasty period was one of the major factors that changed this growth. By bringing innovative digital instruments and musical genres, Buddhism influenced the development of world music.⁽²⁵⁾ The development of world opera, particularly during the Qing Dynasty, was significantly influenced by both the Ming and Qing dynasties. The distinctive vocal and instrument art became one of world most significant cultural heritage forms. A new genre of world theatrical productions and stage art was brought forth by Jingxi, which began in the middle of the 18th century.⁽⁴⁵⁾ This type of opera combined many operatic elements, resulting in an adaptation of the European Grand Opera while maintaining its original world music flavor.⁽⁵⁵⁾

African music has evolved as a result of historical shifts and cultural influences. African civilization was still heavily reliant on traditional cultural music practices at this time.⁽¹⁾ In Africa and among Africans living abroad, African music might maintain its cultural identity. The political revolution had no effect on the survival of the musical tradition in other local opera forms, particularly Jingxi.⁽⁴⁹⁾ Given the expansion of the industry, the term of cultural diffusion demonstrates that African music has beyond the national level.⁽⁴⁾ This demonstrates unequivocally that although if the majority of this music was originally in a traditional style, it has been accepted and assimilated in contemporary society with similar cultural significance.⁽¹⁵⁾

Eight materials are traditionally used to make world musical instruments: gourd, silk, skin, stone, bamboo, earth, metal, and wood.⁽⁵⁰⁾ These include the Zeng, a bronze bell intended for usage in China, and the bronze drums used in customary performances. The pear-shaped stringed lute known as the Pipa and the two-stringed Angling Herp (Kongu) were among the new and digital instruments that Buddha brought to China. The opera had a major impact on all forms of world music, but particularly on Jingxi.⁽⁴⁸⁾ World Opera evolved into a sophisticated art form throughout the Ming and Qing Dynasties, incorporating staged theater, singing, and musical accompaniment. Because it combined elements of operatic music while remaining distinctively globally, the development of Jingxi in the 18th century also marked a significant turning point in the history of world music.⁽⁵⁰⁾

Traditional African Music's Cultural Significance

African music has played a significant role in improving cultural and morality education in both the past and present.⁽¹³⁾ One of the earliest and most consistent connections with Africa philosophy is that between music and social rhythm. In addition to being an art form, music has been viewed as a tool for moral instruction and for fostering social ties.⁽³⁴⁾ The Confucian-based educational system was very much in line with the idea of "great harmony" through music. With the aid of two Confucian texts the Book of Rites and Analects the ancient Chinese intellectuals of the Han Dynasty studied music as a bridge among education and culture in order to preserve societal harmony which have integrated with African culture to the modern world to stimulate digital world music.⁽³³⁾

Music became a tool for nation-building and cultural control as a result of the 20th-century anti-Japanese struggle.⁽²⁶⁾ The Ministry of Education promoted musical events that promoted national unity and anti-war songs. For example, Nie Er's song "March of Volunteers" was adopted as the People's Republic of China's national anthem. This paper makes the case that, particularly at times of national tragedy, it is simple to relate Africa music to philosophical traditions. School and university anthems contributed to the nation's strength and togetherness during times of external attack.⁽⁴⁶⁾

It is clear that traditional Africa music continues to play a significant role in forming the modern society's sense of national identity using AI platform.⁽¹⁵⁾ The government continues to emphasize the role of patriotism in music education, particularly in the regulation of social networking sites and other websites that share material in digital platform. Content depicting patriotic music themes is preferred by the government, while sensitive political or anti-patriotic content is rejected.⁽¹²⁾ A relative dichotomy between traditional and modern society has resulted from this approach to music education and culture.⁽⁸⁾ Strict information control may have flaws, but some may argue that it is a useful strategy for maintaining a single narrative that is consistent and cohesive throughout all public spheres.⁽¹⁶⁾ It is essential to include traditional music in the curriculum in order to help pupils develop their cultural awareness and personality.⁽¹⁷⁾

METHOD

This paper was conducted by Finding and combining material about using traditional African music in the classroom is the first step. The goal of the study was to determine the cultural significance, educational worth, and advantages and disadvantages of incorporating traditional African music into school settings in modern technology today.

Search terms for this paper's literature were traditional African music, music instruction, integration of culture, pedagogical inventiveness and educational technology. The search engines used were Google Scholar, JSTOR, Artificial Intelligence and Scopus. Accessibility of articles and research papers in refereed journals, documents from conferences, and books that focused on education and integrating African music into the process of education served as the basis for the selection criteria. The following were included in these steps: Articles from the last 10 years were reviewed to make sure they were current and recent. The chosen studies addressed curriculum and instruction, information technology, cultural preservation, and practice teaching in music education.

The methodologies, findings, and importance of these chosen studies in explaining the role of traditional African music in modern education were then evaluated. Themes such as cognitive and cultural values, the use of technology in education, issues with professional growth, and cultural identity in education served as the foundation for this synthesis. Articles about integrating African music into the classroom, educating instructors, and utilizing emerging technology like AI and VR in music education received particular attention.

In order to comprehend the challenges and opportunities of integrating traditional African music into contemporary education, themes pertaining to the current educational system were developed and examined at the conclusion of the study.

Ethical Consideration

The Kisii University Ethics and Review Committee, accredited by the National Commission for Science, Technology, and Innovation (NACOSTI), provided the researcher with an ethical review certificate prior to the study, and the researcher obtained the respondents' voluntary consent. Throughout the study, honesty and transparency were maintained, particularly in data collection, participant selection, interpretation, and report writing from various reviews.

RESULT

Educational Outcomes

Indicators of Academic Performance

It has been demonstrated that incorporating traditional African music into the classroom improves students' academic performance in a variety of subjects. According to a study of the literature, listening to traditional African music can improve one's capacity for thought, particularly in the areas of memory and problem solving.⁽¹⁷⁾ The intricacy of traditional African music and the extreme technical difficulty of the performed musical pieces appear to be linked to this enhancement in cognitive abilities.⁽²⁾ Several studies have demonstrated that students who are taught traditional African music have better memory and auditory processing skills. This is particularly true considering that traditional African music has intricate melodies and challenges the brain's ability to harmonize.⁽²⁾ Conventional instruments are also recognized to impart the endurance, discipline, and patience needed to learn any musical instrument digital skills that are readily transferable to academic work.⁽²⁰⁾ Learning traditional instruments, particularly the more complex ones like the guqin or pipa, has been shown to improve students' technical proficiency and overall comprehension of world music. Through the development of specific instrumental talents and general musical knowledge, this music training aids students in acquiring important qualities and skills related to art and culture.⁽³²⁾

Skill Development

Teaching traditional African music improves other useful qualities in addition to musical ability.⁽³²⁾ Playing instruments improves students' motor abilities, coordination, and rhythm, which has an effect on their acquisition of traditional music. The intricate details required to play traditional African instruments improve hand-eye coordination and motor abilities.⁽¹¹⁾ The improvement of different cognitive abilities is particularly noticeable in conventional music education. Students' ears are confused by the dynamic beats and intonation of traditional African music, which also enhances their cognitive abilities.⁽³⁾ The advancement of modern science and technology has created several prospects for traditional instrument skill improvement through the use of new generating methodology in traditional musical education.⁽⁶⁾ Social skills are also improved by traditional music education, and this is especially true in group settings, because traditional music involves performances, the activity requires cooperation, coordination, and language use all of which are critical interpersonal and teamwork skills⁽²⁾

Cross-cultural Competency

Students get an appreciation for cultural diversity by learning about traditional world music. Students who major in traditional music are also taught about world art, history, and culture.⁽⁵⁾ Notably, this cultural education is not limited to music; rather, it is a genuine cultural education that aids African citizens in comprehending their society and culture in its entirety.⁽¹⁰⁾ Students' levels of cultural awareness, comprehension, and enjoyment are raised by traditional music. They are also capable of understanding how to respect different cultures and appreciating the many manifestations of cultural diversity. It is helpful in the modern day, when globalization has led to cross-cultural interactions with technology.⁽⁷⁾

Motivation of Students

Levels of Engagement

Students' motivation and interactions with traditional African music reveal a variety of trends and interests. The literature claims that when students from culturally varied backgrounds learn ethnic music at school, they feel proud and like they belong.⁽⁵⁾ Students' engagement in the course material is facilitated by this cultural resonance, which can be viewed as a powerful motivator. Students are still taught traditional music thanks to contemporary teaching methods and technology.⁽⁷⁾ Teaching traditional music in a modern setting is made easier by the incorporation of technology of learning with the use of multimedia. It should be highlighted, though, since not all historical musical styles can be covered in a typical curriculum, which could affect how motivated students from various cultural backgrounds.⁽⁵⁾

Cultural Relationship

Culture offers an essential connection between a student's upbringing and their degree of musical participation. Students who get traditional music instruction develop a stronger cultural bond and a greater sense of self-satisfaction. Because it provides unforgettable learning experiences that encourage students to look deeply into their cultural history, traditional music's attraction has a profound effect on students.⁽¹⁴⁾ Students can experiment with different types of music and create original arrangements using traditional music education. Students are able to discover their creative voice in the provided form because to this creative autonomy.⁽³⁹⁾ Students' attention and the learning process can be improved by combining traditional and contemporary forms.⁽³⁾

Individual Growth and Development

According to conventional wisdom, learning music benefits a person's growth in a variety of ways. Students cited higher self-worth, cultural pride, and an improved sense of art as a few benefits of traditional music.⁽³⁶⁾ Students' attitudes toward future learning are influenced by the observable outcomes and satisfying experiences that come from studying conventional instruments and musical forms. In addition to overall development, classical music instruction fosters emotional and personality development, including the ability to express oneself.⁽³¹⁾ With the aid of traditional musically associated forms, students may comprehend and perform similar emotional narratives, which improves their expressiveness and emotional intelligence. The person's psychological development and personality maturity are aided by this emotional development.⁽⁴³⁾

Formation of Cultural Identity

Development Identity

The cultural growth of students is undoubtedly greatly aided by traditional African music. Students that listen to traditional music learn more about their cultural history, strengthen their ties to it, and uncover their roots.⁽¹⁵⁾ Traditional music helps students form a cultural connection with their cultural background and cultivate their individual artistic personalities.⁽⁵³⁾ As a result, identity building during conventional music learning is a complicated process. By being able to differentiate between music styles from the past and present, students are able to develop a healthy cultural perspective that encompasses both.⁽¹⁸⁾ This blending of traditional and contemporary elements helps students better understand how they identify with their culture.⁽³⁷⁾

Knowledge of Culture

Beyond mastering musical form, understanding the cultural significance and conventional music education include cultural epistemology. They study the social-cultural elements, philosophical underpinnings, and historical contexts of traditional music.⁽⁴²⁾ Cultivating a cultural personality is greatly aided by this holistic, culturally-based learning. Traditional music fosters cultural intelligence in students as well as their ability to engage with and respect diverse cultures.⁽²³⁾ Particularly in worldwide educational and professional settings, this increased cultural understanding is beneficial.⁽³³⁾

Relationship with the Community

Students and their ethnic communities develop close bonds through traditional music education. Students

who have an interest in cultural music can get in touch with musicians, members of various cultural groups, and other students.⁽⁴⁶⁾ Making these kinds of links helps students better grasp their cultural and global digital roles. The school's participation in cultural activities, festivals, and concerts is only one aspect of the community's commitment to traditional music education.⁽⁹⁾ By providing real-life settings that mirror the cultural element and strengthen social links, these activities make learning music more relevant. Such community involvement aids in the preservation of this genre of music, the exchange of knowledge between younger and older generations, and the transmission of cultural values.⁽⁵²⁾

The aforementioned effects of CME highlight the value of teaching traditional African music in the contemporary classroom.⁽²⁷⁾ Therefore, the improvement of learning results, motivation, and the development of cultural subjectivity suggests that conventional music education is important for students' growth and cultural awareness. According to the paper's data, traditional African music should be incorporated into the current educational models; nevertheless, some aspects require additional development and adaptation to satisfy the demands of contemporary society in AI.⁽⁴⁷⁾

DISCUSSION

When creating instructional materials, a few crucial factors must be considered. No matter how they are utilized, the materials should, first and foremost, preserve and honor cultural identity while keeping their traditional qualities. Second, contemporary students from various schools and generations who have had varying experiences with traditional music must be able to understand them. Third, in order for students to acquire and apply their understanding of traditional music, the course materials should also integrate the theoretical aspect along with the practical component. Fourth, without sacrificing traditional elements of value, they should adopt digital tools and multimedia to keep up with modern technology learners. To ensure academic legitimacy and the attainment of results, these resources must also be pertinent to the contemporary educational process and adhere to academic norms.⁽²⁹⁾

Effective teaching resources are crucial for preserving the local music culture and improving students' comprehension of national and traditional music, according to research.⁽³⁸⁾ These resources should employ both traditional and cutting-edge teaching techniques, and they should be suitable for both group and individual instruction. They should also make sure that learning new technology abilities follows a defined hierarchy that doesn't interfere with the established musical frameworks. A tool for assessing students understanding of historical context, cultural significance, and elements like traditional values is cultural analysis. This entails evaluating their understanding and performance of the cultural significance found in traditional music, historical knowledge, and cultural preservation. While maintaining traditional standards, AI has enabled the adoption of improved assessment techniques.⁽⁴⁹⁾ These resources help to comprehend the student's progress by providing not only the technical skill details of the student's performance but also the culturally interpreted indicators. To prevent overlooking certain cultural distinctions and other artistic elements, technological evaluation should always be supplemented by human evaluation.

In this sense, there are a lot of opportunities to broaden the use of methods and technology that will support the advancement and acceptance of traditional music education in the digital sphere. As a result, there are now more chances to teach traditional music using educational technologies. Modern technology has developed to be useful for learning traditional music. The notion that AI-enabled teaching-learning systems improve the educational process and cultural relevance has been backed.⁽⁴⁹⁾ Their study found that learners who used AI-based applications improved their technical skills by 25 % more than those who used conventional methods.

Technologies like AI virtual and augmented reality create new opportunities for use in conventional music teaching. Effective methods for using the virtual reality environment in the classroom, where students can study conventional music performances and cultural backgrounds, have been presented.⁽⁴⁵⁾ Students can now observe the great musicians' performances from a variety of perspectives and angles thanks to this technology. A special opportunity to preserve and disseminate information to a large audience is provided by digital archives. There are effective instances of combining historical documents, performance footage, and instructional resources with traditional music through considerable digitization and integration.⁽⁵⁴⁾ Additionally, these archives serve as both educational resources and a way to preserve cultural legacy.

To enhance the incorporation of traditional African music into contemporary education, the following policies can be suggested based on the assessment above.

- i) Financing: To solve the problem of setting up the classroom with instruments, supplies, and instructors, it is advised that traditional music programmes be given their own financing source within the educational establishment. Redressing the existing disparities between rural and urban institutions is one aspect of this.⁽²¹⁾

- ii) Development of Curriculum: Curriculum suggestions for development that integrate both conventional content and contemporary teaching methods should be provided by education authorities in order to improve the quality of teaching and learning. As long as regional variations do not negatively

impact educational outcomes, these standards ought to accommodate them.

iii) Professional Development: Organizations should support music educators' professional development, focusing on improving their knowledge of music and teaching pedagogy. These programs improve both the effectiveness of instruction and student performance.⁽²³⁾

iv) Conservation: A cultural policy should be established to support the documentation of traditional music and the preservation of master musicians as cultural assets.

In an effort to uphold cultural values and get students ready for the future of society, traditional African music is being used in classrooms. Thus, study, adaptation to changing educational demands, and consistent effort by legislators, educational groups, and other professionals are essential to its success.

CONCLUSION

This assessment of traditional African music's use, function, and development potential in the modern educational setting leads to a number of findings. Basically, this study shows that traditional African music plays a vital role in preserving culture and is equally important in students' education and cultural development. The historical evolution of African music education is presented in this study. Its lengthy and fascinating history spans from prehistoric dynasties to the present. This has made it possible for traditional music to be included in the current educational system rather than being excluded from it. According to research, this combination has improved students' learning in the areas of music, cultural sensitivity, and critical thinking.⁽⁵¹⁾

The quality of teachers, the substance of the instructional materials, the use of technology, and cultural bearers are some of the elements that must be taken into account during the integration process, according to an analysis of the implementation frameworks. Educational institutions that implement these components see a significant increase in student enrollment and improved cultural conservation outcomes.⁽⁵³⁾

In the following ways, this study has consequences for the practice of education. To start, in order to reach the current generation, educators must balance traditional and modern technology teaching methods. In order to achieve this balance, one must take into account both the educational requirements of the selected subject and its cultural significance. Second, there are some things to think about when integrating technology into traditional music education. Despite the fact that technology can improve learning and retention, its use should be complemented by more conventional proctoring techniques. Integrating technology into traditional teaching methods enhances them while maintaining a nation's culture. Third, teachers' professional development and global competencies require systematic and constant attention to their ongoing development. According to the study, teacher training programs should incorporate both general pedagogy knowledge and specialized music knowledge to equip teachers for modern school practices.⁽⁵¹⁾

RECOMMENDATION

The possible research directions from this work seem to be as follows: First, qualitative longitudinal study is required to determine the long-term effects of traditional music instruction on cultural identification and preservation. It might also provide some insight into how effective the current teaching methods are in digital technology. Second, it is vital to investigate the most effective methods for combining conventional and contemporary teaching and learning approaches. Approaches that guarantee the cultural relevance of the content while speaking to students in the present day should receive particular consideration. Third, more study on the application of technology in conventional music instruction is required. Future classroom methods may benefit from research on a variety of technological tools and how they can improve learning.

LIMITATION

There are advantages and disadvantages to integrating traditional African music into the contemporary educational system. This assessment of the literature outlines the difficulties encountered during the implementation phase as well as the path forward for the advancement and enhancement to conventional music education. Recent studies have shown that while these issues persist, especially with regard to resource distribution and educational assimilation, new opportunities brought about by technology and instructional ideas offer hope for the preservation and dissemination of traditional musical heritage.⁽⁴⁴⁾ A study examined the differences in music education across rural and urban locations in Africa using cross-sectional questionnaires from 15 districts and 2206 music teachers.⁽²¹⁾ Regarding the distribution and accessibility of resources that significantly influence the efficacy of traditional music instruction across the globe, the study identifies research gaps.

There are benefits and drawbacks to using technology in conventional music instruction. The following is a detailed classification of the technological obstacles.⁽²⁵⁾ The purpose of this article was to determine how infrastructural limitations affect institutions, particularly in rural locations. Compared to 85 % of urban-based schools, this study reveals that only 40 % of rural schools have internet access for online music education

platforms.⁽²²⁾ It has a significant impact on their everyday access to contemporary educational resources. Adopting traditional teaching methods and technologies, as well as incorporating innovations into the educational process, present some challenges. The authors also note that a lot of traditional music practices include little adjustments that are difficult for contemporary technologies to fully record and evaluate.

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