

IMPACT OF ARTIFICIAL INTELLIGENCE (AI) ON IGBO TRADITIONAL MUSIC AND CULTURE: TOWARDS FOSTERING ENTREPRENEURSHIP AMONG SECONDARY SCHOOL STUDENTS, FOR SUSTAINABLE DEVELOPMENT

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Abstract

This study examined the impact of artificial intelligence (AI) on shaping Igbo traditional music and cultural practices for fostering entrepreneurial mindsets and skills among secondary school students for sustainable development in South East Nigeria. The need for the study arises due to a lack of knowledge on how AI can be leveraged to promote cultural entrepreneurship for sustainable development. A survey research design was used for the purpose of the study. The population of the study is all 40 creative and cultural teachers in the South East Nigeria. The sample of the study was all the 40 cultural and creative arts teachers hence; no sampling technique was adopted by the researcher. Two research questions guided the study. A 27-item statements/questionnaire were used to collect data from the respondents (teachers). The instrument was validated by two experts in Department of Music another expert in Cultural and Creative Arts in Department of Arts Education and one expert in Measurement and Evaluation all from Faculty of Education University of Nigeria, Nsukka. The instrument yielded the following reliability estimates of 0.89 using Cronbach Alpha method. The result was analyzed using mean scores and content analysis. The result revealed that Igbo traditional music and cultural practices play a role in shaping entrepreneurial mindsets and skills among secondary school students like hard work, creativity, innovation, accountability, risk taking, problem solving, among others. The research also reveals that the role Artificial Intelligence (AI) play in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development are through the use of different components like Virtual and Augmented Reality (VR/AR) for Providing immersive and interactive learning experiences in Igbo traditional music and cultural practices among others. It was recommended among others that the educators and policymakers should encourage and support the use of AI in developing cultural entrepreneurship initiatives and programs that will enable students acquire entrepreneurial mindsets and skills for sustainable development.

Keywords: Artificial Intelligence (AI), Igbo traditional music, cultural practices, entrepreneurial mindset and skills, sustainable development.

Introduction

The integration of Artificial Intelligence (AI) in various aspects of human life has revolutionized the way we create, interact, and innovate (Kaplan & Heinlein, 2019). Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and learn like humans (Kaplan & Heinlein, 2019). Artificial intelligence (AI) is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The integration of Artificial Intelligence (AI) in education has transformed the learning experience, offering innovative ways to develop essential skills, including entrepreneurial mindsets. In Nigeria, particularly in the South East region, Igbo traditional music and cultural practices are rich sources of entrepreneurial values and skills. Music is an art form whose medium is sound and silence, typically expressed through melody, harmony, rhythm, and timbre (Adeogun, 2018). Music is a universal language that can evoke emotions, create connections, and bring people together. Music is part of the cultural practices of people. Music plays a significant role in human culture, identity, and expression, and has been shown to have cognitive, emotional, and social benefits (Babiner, 2020). Every tribe has its own music and cultural practices and so do Igbo people.

The Igbo people, an ethnic group native of Southeastern Nigeria, possess a rich cultural heritage, that encompasses vibrant music, art and cultural practices. The Igbo music and cultural practices have strong emphasis on community, storytelling and creativity. Igbo traditional music is an integral part of Igbo culture, reflecting the community's history, values, and beliefs (Nwosu, 2018). Igbo traditional music refers to the music of the Igbo people, an ethnic group from southeastern Nigeria, characterized by its unique rhythms, melodies, and instruments (Ani 2019). Igbo traditional music has a vital role in promoting sustainable development, particularly in the areas of cultural preservation, economic empowerment, and social inclusivity. The "Igbo drums" are a significant part of Igbo traditional music, used for communication, celebration, and storytelling. Igbo traditional music is an essential part of Igbo cultural heritage, identity, and expression, and plays a vital role in preserving Igbo history and traditions (Eze, 2019).

Cultural practices refer to the customs, traditions, and behaviors that are passed down from one generation to the next within a culture (Okeke, 2020). Culture is the peoples' way of life. The Igbo people have a rich cultural heritage, and their cultural practices are varied and diverse. Here are some of the most significant cultural practices of the Igbo people: Vibrant traditional Music and Dance, which plays a significant role in their cultural and social activities, rich masquerade culture representing different spirits, ancestors, and deities, strong tradition of respect for elders, who are seen as custodians of wisdom and cultural knowledge, a high value on community gatherings, which are often held to celebrate festivals, mark important life events, and resolve disputes, a rich culinary tradition (traditional cuisine), with popular dishes among others. These cultural practices are an integral part of Igbo identity and continue to play a significant role in the lives of Igbo people today. For instance, the Igbo traditional wedding ceremony is a cultural practice that involves music, dance, and rituals. Both the cultural practices and traditional music are essential for preserving cultural heritage, promoting cultural identity and community cohesion, fostering an entrepreneurial mindset and skills for sustainable development (UNESCO, 2019).

Entrepreneurship skills and mindsets refer to the abilities and attitudes necessary for creating and running a successful business, including creativity, risk-taking, and adaptability (Eze, 2018). Entrepreneurship skills and mindsets are crucial for creating innovative solutions to societal problems, promoting economic growth, and fostering sustainable development (UNESCO, 2019). Igbo music and cultural practices are rich in cultural heritage and aesthetic value, offering vast opportunities for entrepreneurship. This means that fostering an entrepreneurial mindset and skills can empower music students to become creative entrepreneurs, contributing to the preservation and promotion of Igbo traditional music and cultural practices (Okoro, 2019). The entrepreneurial mindset and skills which students can acquire from Igbo music and cultural practices which will also help for preserving and promoting Igbo music and cultural practices for sustainable development includes:

Creativity: Igbo music and cultural practices are rich in cultural heritage and aesthetic value, which students need to acquire to be creative in their approach to preserving and promoting Igbo traditional music and cultural practices and developing entrepreneurial opportunities.

Innovation: Igbo music and cultural practices tell stories of people with innovative minds which students can imbibe for their entrepreneurship endeavors and also how to use technology for preserving and promoting Igbo traditional music and cultural practices.

Risk-taking: Igbo music and cultural practices teaches students need to be willing to take risks to succeed in their entrepreneurship life.

Collaboration: Igbo music and cultural practices teaches about collaboration, and to succeed in the journey of entrepreneurship, one need to be able to collaborate with other stakeholders, including community leaders, cultural enthusiasts, and technology experts and also to preserve and promote Igbo traditional music and cultural practices.

Adaptability: Music students need to be adaptable in their approach to preserving and promoting Igbo traditional music and cultural practices, responding to changing circumstances and opportunities.

Resilience: Igbo culture values resilience and perseverance, essential qualities for entrepreneurs. The ability to bounce back from challenges and adapt to changing circumstances can be developed through participation in Igbo cultural practices. Example: The Igbo tradition of "Ekpe" (a masquerade ceremony) teaches participants to navigate complex social dynamics and build resilience in the face of adversity.

Community engagement: Igbo music and culture emphasize community and social bonding. Entrepreneurship requires building relationships and engaging with customers, partners, and teams. Example: The Igbo tradition of "Age Grade" (a system of social organization) fosters community engagement and teamwork skills, essential for entrepreneurial success.

Storytelling: Igbo culture values storytelling, which is critical for entrepreneurship. Effective storytelling can help entrepreneurs communicate their vision, build brand identity, and connect with customers. Example: The Igbo tradition of "Akuko" (storytelling) can inspire entrepreneurs to craft compelling narratives about their products or services.

In this context, if students are given the opportunity to acquire these entrepreneurial mindset and skills from Igbo traditional music and cultural practices, they can now have entrepreneurship potentials related to Igbo music and culture or other related business. Entrepreneurial potential in Igbo music and cultural practices refers to the inherent economic and social value that can be leveraged to create innovative and sustainable business ventures, driving economic growth and development. Here are some entrepreneurial potentials /possibilities inherent in Igbo music and cultural practices.

Entrepreneurial potentials /possibilities inherent in Igbo music are:

- Music Production and Distribution: Produce and distribute Igbo music, creating a global market for Igbo artists.
- Music Instrument Production: Manufacture and sell Igbo traditional music instruments, like Igbo drums
- Recording and sales of Igbo music.
- Music streaming services.
- Live music performances and tours.
- Music education and workshops.
- Music licensing for film, TV, and commercials

Entrepreneurial potentials /possibilities inherent in cultural practices are:

- Cultural Tourism and heritage sites: Develop tourism initiatives showcasing Igbo cultural heritage, such as festivals, traditional clothing, and art.
- Artisanal Crafts and Textiles: Commercialize Igbo artisanal crafts, like woodcarvings, pottery, and textiles.
- Traditional Cuisine and Food Products: Package and market Igbo traditional cuisine and food products.
- Cultural Education and Workshops: Offer workshops and courses teaching Igbo language, culture, and traditions.
- Event Planning and Management: Organize and manage Igbo cultural events, such as weddings and festivals.
- Fashion and Apparel: Create a fashion brand incorporating Igbo traditional clothing and prints.
- Digital Content Creation: Develop digital content (e.g., videos, blogs, podcasts) showcasing Igbo culture and music.
- Cultural Consulting: Offer consulting services for businesses seeking to understand and engage with Igbo culture.
- E-commerce Platform: Create an e-commerce platform for Igbo cultural products and services.
- Music Instrument Production: Manufacture and sell Igbo traditional music instruments.
- Cultural Exchange Programs: Develop programs for cultural exchange between Igbo communities and international partners.
- Traditional Medicine and Wellness: Commercialize Igbo traditional medicine and wellness practices.
- Igbo Language and Literature: Develop language learning resources and publish Igbo literature.
- Cultural Research and Documentation: Conduct research and document Igbo cultural practices, history, and traditions.

By leveraging these entrepreneurial potentials, Igbo music and cultural practices can be preserved, promoted, monetized, create jobs and create social impact contributing to cultural revitalization of the Igbo community, and sustainable development, thus it is seen as cultural entrepreneurship. Cultural entrepreneurship refers to the use of cultural heritage as a resource for innovation and entrepreneurship. Cultural entrepreneurship has been recognized as a key driver of sustainable development, particularly in communities with rich cultural heritage like Igbos.

Sustainable development refers to a holistic approach to economic, social, and environmental development that balances present needs with future generations' needs. Sustainable development is also referred to as the process of meeting the needs of the present without compromising the ability of future generations to meet their own needs (UNESCO, 2019). Sustainable development in the music and cultural practices involves using eco-friendly instruments, reducing energy consumption, and promoting social justice. Sustainable development is essential for ensuring the long-term survival of human societies, protecting the environment, and promoting social equity (UNESCO, 2019). Sustainable development is a pressing global concern, and the United Nations' Sustainable Development Goals (SDGs) emphasize the need for inclusive, equitable, and culturally sensitive approaches to achieving sustainable development. Anyanwu (2023) revealed that in the context of Igbo music and cultural practices, sustainable development involves entrepreneurial possibilities and other things. Therefore, entrepreneurial possibilities inherent in Igbo music and cultural practices can contribute to sustainable development in several ways:

- Cultural Preservation: By leveraging entrepreneurial possibilities, Igbo music and cultural practices can be preserved and passed down to future generations.
- Economic Empowerment: Entrepreneurial ventures in Igbo music and cultural practices can generate income and generating income and creating employment opportunities for musicians, instrument makers and cultural entrepreneurs, contributing to economic growth and poverty reduction.

- **Social Cohesion:** Igbo music and cultural practices can promote social cohesion and community engagement, fostering a sense of identity and belonging.
- **Environmental Sustainability:** Eco-friendly practices can be incorporated into entrepreneurial ventures, promoting environmental sustainability.
- **Cultural Exchange:** Entrepreneurial possibilities can facilitate cultural exchange and collaboration, promoting cross-cultural understanding and appreciation.
- **Education and Skills Development:** Entrepreneurial ventures can provide opportunities for education and skills development, enhancing human capital.
- **Community Development:** Entrepreneurial possibilities can contribute to community development, improving infrastructure and social services.
- **Cultural Revitalization:** Entrepreneurial ventures can help revitalize Igbo culture, promoting cultural diversity and heritage.
- **Tourism Development:** Igbo cultural practices and music can be showcased to tourists, generating revenue and promoting cultural exchange.
- **Digital Inclusion:** Entrepreneurial possibilities can promote digital inclusion, providing access to technology and online platforms.

By harnessing/leveraging the entrepreneurial possibilities inherent in Igbo music and cultural practices, sustainable development can be achieved, ensuring the long-term viability of Igbo cultural heritage, economic growth, and social well-being.

Therefore, engaging with Igbo music and cultural practices, entrepreneurs can develop essential skills such as creativity, resilience, community engagement, storytelling, and adaptability. These skills can help entrepreneurs innovate, build strong relationships, and navigate the challenges of starting and growing a successful business. However, the current state of Igbo traditional music and cultural practices in South East Nigeria is not encouraging. Many young people in South East Nigeria are more interested in contemporary music genres such as Afrobeats and Hip-Hop, rather than traditional Igbo music. Additionally, the decline of traditional apprenticeships and the increasing influence of formal education have reduced the transmission of Igbo cultural practices from one generation to the next. The influence of Western culture, technology, urbanization, and modernization has threatened the survival of Igbo traditional music and cultural practices, leading to the erosion of some traditional music and cultural practices which develop entrepreneurship mindsets and skills among the younger generations, thus the need to employ AI for assistance. In the context of Igbo traditional music and cultural practices, the impact of AI is multifaceted, offering opportunities for cultural preservation, innovation, and entrepreneurship (Iyengar, 2020). AI can be used to preserve and promote Igbo traditional music and cultural practices for impacting the entrepreneurial mindsets and skills in several ways:

Digital archiving: AI-powered tools can be used to digitize and archive Igbo traditional music and cultural practices, making them more accessible to a wider audience. Music composition: AI algorithms can be used to generate new music compositions based on traditional Igbo music patterns, helping to preserve and promote Igbo musical heritage. Cultural analytics: AI-powered tools can be used to analyze and understand Igbo cultural practices, providing insights into their significance and importance. Virtual reality experiences: AI-powered virtual reality experiences can be used to simulate Igbo cultural practices, providing an immersive and engaging way to learn about and experience Igbo culture. From the above discussion, all these are essential in order to get entrepreneurship mindsets and skills. Therefore, one can specifically say that some components of AI that can help students develop entrepreneurial mindsets and skills from Igbo traditional music and cultural practice are as follows:

1. **Natural Language Processing (NLP):** NLP can help students develop entrepreneurial skills by:

- Analyzing and providing feedback on business plans and pitches inspired by Igbo traditional music and cultural practices
- Generating ideas and suggestions for entrepreneurial ventures based on Igbo cultural heritage
- Facilitating communication and collaboration among team members through the Igbo language and cultural nuances

2. **Machine Learning (ML):** ML can help students develop entrepreneurial mindsets by:

- Providing personalized learning experiences and adaptive assessments on Igbo traditional music and cultural practices
- Analyzing and identifying patterns in successful Igbo entrepreneurs and their cultural influences
- Offering predictive analytics and insights for informed decision-making in entrepreneurial ventures inspired by Igbo culture

3. **Expert Systems:** Expert systems can help students develop entrepreneurial skills by:

- Providing guidance and mentorship through virtual coaching from Igbo entrepreneurs and cultural experts
- Offering decision-support systems for entrepreneurial decision-making inspired by Igbo traditional music and cultural practices

- Facilitating access to Igbo cultural knowledge and expertise for entrepreneurial development

4. Virtual and Augmented Reality (VR/AR): VR/AR can help students develop entrepreneurial mindsets by:

- Providing immersive and interactive learning experiences in Igbo traditional music and cultural practices
- Simulating real-world entrepreneurial scenarios and challenges inspired by Igbo culture
- Enhancing creativity, innovation, and problem-solving skills through Igbo cultural influences

5. Chatbots and Virtual Assistants: Chatbots and virtual assistants can help students develop entrepreneurial skills by:

- Providing 24/7 support and guidance for entrepreneurial inquiries inspired by Igbo traditional music and cultural practices
- Offering personalized recommendations and resources for entrepreneurial development rooted in Igbo culture
- Facilitating communication and collaboration among entrepreneurial teams through Igbo language and cultural nuances

6. Predictive Analytics: Predictive analytics can help students develop entrepreneurial mindsets by:

- Analyzing and identifying patterns in successful Igbo entrepreneurs and their cultural influences
- Providing predictive insights and recommendations for entrepreneurial decision-making inspired by Igbo traditional music and cultural practices
- Enhancing risk management and mitigation strategies through Igbo cultural knowledge

7. Gamification: Gamification can help students develop entrepreneurial skills by:

- Providing interactive and engaging learning experiences in Igbo traditional music and cultural practices
- Simulating real-world entrepreneurial challenges and scenarios inspired by Igbo culture
- Enhancing motivation, creativity, and innovation through Igbo cultural influences

From the above discussion, it is certain that AI has the potential to transform various industries, including music, by increasing efficiency, creativity, and innovation (Huang et al., 2020). This study therefore aims to investigate the role of AI in shaping Igbo traditional music and cultural practices, with a focus on fostering entrepreneurial mindset and skills for sustainable development among music students in South East Nigeria.

Statement of Problem

Igbo people are blessed with rich Igbo traditional music and cultural practices which foster entrepreneurial mindset and skills among youths for sustainable development. Despite the fact that this entrepreneurial mindsets and skills has been recognized as a key driver of sustainable development, its potential remains underutilized in Igbo communities as their impact is limited by traditional teaching methods. Many students in South East Nigeria have limited exposure to Igbo traditional music and cultural practices from both school curriculum and extracurricular activities, making it difficult for them to acquire the entrepreneurial mindset and skills needed to turn their passion for Igbo traditional music and cultural practices into sustainable careers. Thus, Igbo communities face significant and complex development challenges that threaten the very fabric of Igbo society, like youth unemployment, brain drain among the youth, poverty, erosion of traditional values and cultural practices, and economic marginalization, which has been devastating. On the other hand, the incorporation of AI in education offers a promising solution, but its effectiveness in developing entrepreneurial mindsets and skills among secondary school students in South East Nigeria remains unexplored. Could it be that the teachers don't have the knowledge on the components of AI that can help students develop entrepreneurial mindsets and skills from Igbo traditional music and cultural practices for sustainable development? This study therefore seeks to address this knowledge gap by exploring the role of AI in shaping Igbo traditional music and cultural practices, and its potential to foster entrepreneurial mindset and skills for sustainable development among students.

Research Questions

1. What role do Igbo traditional music and cultural practices play in shaping entrepreneurial mindsets and skills among secondary school students?
2. What role can Artificial Intelligence (AI) play in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development?

Methods

The research design employed for the study was a descriptive survey, which involves obtaining information from respondents based on the responses from a section of respondents that represent the entire population used for the study. According to Nworgu (2006), when a survey centers on describing some variables in relation of a given population, the descriptive survey research design is the most appropriate. The area of the study was all the Unity Schools in South- East of Nigeria. The population of the study was all the cultural and creative arts

teachers and students. The sample of the study consisted of 30 cultural and creative arts teachers and 120 students drawn through a purposive sampling technique. A 27-item questionnaire was used to collect data from the respondents, and a focus group discussion was conducted. The instrument was structured on a 4-point Likert-type scale on which the respondents reacted. The items in the questionnaire were weighted as follows: Strongly Agree (SA)-4 points, Agree (A)- 3 points, Disagree (D) -2 points, and Strongly Disagree (SD) -1point.

The criterion mean of acceptance is 2.50. The instrument was face validated by two senior lecturers in cultural and creative arts and music department and one in measurement and evaluation, all from the University of Nigeria, Nsukka. The Cronbach Alpha, Coefficient method was used to determine the reliability of the instrument. It yielded a coefficient of 0.90. A total of 16 copies of the instrument were administered and retrieved, and a focus group discussion was conducted. The data was analyzed using mean scores, while content analysis was used for focus group discussion. Any item statement with a mean rating of 2.50 and above was considered a valid value, while item statement with a mean rating less than 2.50 was rejected.

Results

The results of the data collected from the study are presented in Table 1 according to the research question. Research Question 1: What role do Igbo traditional music and cultural practices play in shaping entrepreneurial mindsets and skills among secondary school students?

Table 1: Mean response of male and female teachers on the role Igbo traditional music and cultural practices play in shaping entrepreneurial mindsets and skills among secondary school students.

S/N	Items	X1	Sd1	X2	Sd2	X3	Dec
	Through Igbo traditional music and cultural practices, one acquire mindsets and skills like:						
1	Creativity and innovation	3.09	.30	3.16	.37	3.13	.35 A
2	Adaptability and resilience	3.73	.47	3.79	.42	3.77	.43 A
3	Value creation	3.18	.40	3.16	.37	3.17	.38 A
4	Accountability and financial discipline	3.73	.47	3.84	.37	3.80	.41 SA
5	Continuous learning	3.18	.40	3.16	.37	3.17	.38 A
6	Sustainability	3.18	.40	3.16	.37	3.17	.38 A
7	Hard work and diligence	3.73	.47	3.79	.42	3.77	.43 SD
8	Loyalty and commitment	3.18	.40	3.11	.32	3.13	.35 A
9	Honesty and integrity	3.27	.47	3.11	.32	3.17	.38 A
10	Hospitality and generosity	3.73	.47	3.84	.37	3.80	.41 SA
11	Respect for authority and elders	3.27	.47	3.11	.32	3.17	.38 A
12	Cooperation and teamwork	3.73	.47	3.84	.37	3.80	.41 SA
13	Communication	3.09	.30	3.16	.37	3.13	.35 A
14	Problem solving	3.73	.47	3.79	.42	3.77	.43 A
15	Decision making	3.18	.40	3.16	.37	3.17	.38 A
16	Risk taking and management	3.73	.47	3.84	.37	3.80	.41 SA
17	Strategic planning	3.18	.40	3.16	.37	3.17	.38 A
18	Critical thinking	3.73	.47	3.79	.42	3.77	.43 SD
19	Time management	3.18	.40	3.11	.32	3.13	.35 A

Cluster Mean 3.16

KEY: $\bar{X}_1$ = Mean for male SD1 = Standard deviation for male

$\bar{X}_2$ = Mean for female SD2 = Standard deviation for female

$\bar{X}_3$ = Total mean SD3 = Standard deviation for female

The result presented in Table 1 shows the mean scores and standard deviations on the role Igbo traditional music and cultural practices play in shaping entrepreneurial mindsets and skills among secondary school students. Table 1 indicates that items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 had overall mean score of 3.13, 3.77, 3.17, 3.80, 3.17, 3.17, 3.77, 3.13, 3.77, 3.80, 3.17, 3.17, 3.77, 3.13, 3.17, 3.17 and 3.13 with standard deviations of .35, .38, .38, .35, .38, .25, .43, .35, .41, .35, .38, .38, .41, .35, .38, .38, .32, .43 and .35. The mean scores fall under the decision of agree based on the real limit of numbers. The cluster mean is 3.16 with a standard deviation of .32. Based on the results from Table 1 above, it shows that all the items listed above are roles Igbo traditional music and cultural practices play in shaping entrepreneurial mindsets and skills among secondary school students

Research Question 2: What role can Artificial Intelligence (AI) play in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development?

Table 2: Mean response of male and female teachers on the role Artificial Intelligence (AI) plays in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development.

S/N	Item	$\bar{X}_1$	Sd2	X2	Sd2	$\bar{X}_3$	Dec.
	Virtual and Augmented Reality (VR/AR) can help students develop entrepreneurial mindsets by:						
20	-Providing immersive and interactive learning experiences in Igbo traditional music and cultural practices	3.09	.30	3.16	.37	3.13	.35 A
	Predictive Analytics can help students develop entrepreneurial mindsets by:						
21	Providing predictive insights and recommendations for entrepreneurial decision-making inspired by Igbo traditional music and cultural practices	3.73	.47	3.79	.42	3.77	.43 A
	Gamification can help students develop entrepreneurial mindsets by:						
22	Enhancing motivation, creativity, and innovation through Igbo cultural influences.	3.18	.40	3.16	.37	3.17	.38 A
	Chabot and Virtual Assistants can help students develop entrepreneurial skills by:						
23	-Facilitating communication and collaboration among entrepreneurial teams through the Igbo language and cultural nuances	3.73	.47	3.84	.37	3.80	.41 SA
	Expert Systems can help students develop entrepreneurial mindsets by:						
24	Facilitating access to Igbo cultural knowledge and expertise for entrepreneurial development	3.18	.40	3.16	.37	3.17	.38 A
	Machine Learning (ML) can help students develop entrepreneurial mindsets by:						
25	Analyzing and identifying patterns in successful Igbo entrepreneurs and their cultural influences.	3.73	.47	3.79	.42	3.77	.43 SD
	Natural Language Processing (NLP) can help students develop entrepreneurial skills.						
26	- Analyzing and providing feedback on business plans and pitches inspired by Igbo traditional music and cultural practices.	3.18	.40	3.11	.32	3.13	.35 A
Cluster Mean		3.32	.09	3.38	.03	3.36	.07A

KEY: $\bar{X}_1$ = Mean for male SD1 = Standard deviation for male $\bar{X}_2$ = Mean for female SD2 = Standard deviation for female $\bar{X}_3$ = Total mean SD3 = Standard deviation for female

The result presented in Table 2 shows the mean scores and standard deviations on the role Artificial Intelligence (AI) plays in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development. Table 2 indicates that items 20, 21, 22, 23, 24, 25, and 26 had overall mean score of 3.13, 3.17, 3.17, 3.13, 3.17, 3.07, and 3.03 with standard deviations of .35, .38, .38, .35, .38, .25, and .18. The mean scores fall under the decision of agree based on the real limit of numbers. The cluster mean is 3.32 with standard deviation of .09. Based on the results from table 2 above, it showed that all the items listed above are all roles Artificial Intelligence (AI) can play in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development.

Discussion

The findings of this study revealed that Igbo music and cultural practices have a significant impact on shaping entrepreneurial mindsets and skillsets, particularly in areas such as creativity, resilience, and community engagement, among others. The findings of this study are in line with the work of Babiner (2020) and who asserts that engaging with Igbo music and cultural practices, entrepreneurs can develop essential skills such as

creativity, resilience, community engagement, storytelling, and adaptability, which will help them to innovate, build strong relationships, and navigate the challenges of starting and growing a successful business. Based on the above, the present researcher concludes that Igbo traditional music and cultural practices hold valuable lessons for sustainable development strategies, including the importance of community, social responsibility, and environmental stewardship which are harnessed to address social and economic challenges in Igbo communities, such as youth unemployment, cultural erosion, and economic marginalization.

The findings also revealed that the roles Artificial Intelligence (AI) can play in enhancing the development of entrepreneurial mindsets and skills among secondary school students through Igbo traditional music and cultural practices for sustainable development includes the use of Virtual and Augmented Reality (VR/AR) will provide students with immersive and interactive learning experiences in Igbo traditional music and cultural practices. The use of gamification can help students develop entrepreneurial mindsets by enhancing motivation, creativity, and innovation among others. The findings of this study are in line with the work of Ellis (2017), who asserts that AI-powered virtual mentorship programs can be used to provide music students with guidance and support from experienced entrepreneurs and industry experts. Based on the above, the present researcher concludes that AI-powered tools can be used to digitize and archive Igbo traditional music and cultural practices, making them more accessible to a wider audience for providing an immersive and engaging way to learn about entrepreneurship, and innovation, which will empower students in acquiring the entrepreneurial mindsets and skills needed for sustainable development.

Conclusion

The integration of Artificial Intelligence (AI) in teaching Igbo traditional music and cultural practices has the potential to revolutionize entrepreneurship education among secondary school students. Igbo music and cultural practices are rich in cultural heritage and aesthetic value, offering vast opportunities for entrepreneurship. These entrepreneurial ventures can generate income, create jobs, and promote cultural preservation, contributing to sustainable development, ensuring the long-term viability of cultural heritage, economic growth, and social well-being. By leveraging the rich cultural heritage of the Igbo people through the use of AI-powered educational tools can foster entrepreneurial mindsets and skills, by enhancing students' creativity, critical thinking, and problem-solving abilities, ultimately preparing them for success in an increasingly complex and interconnected world. As education systems continue to evolve, it is essential to explore innovative and culturally responsive approaches to entrepreneurship education, harnessing the power of AI and cultural diversity to drive sustainable development in Igbo communities.

Recommendations

Based on the foregoing, the researcher recommended as following:

1. Policymakers and stakeholders harness the power of Igbo traditional music to drive sustainable development initiatives, promoting cultural preservation, economic empowerment, and social inclusivity.
2. Teachers should integrate Igbo cultural practices into teaching in secondary schools, to promote cultural awareness and entrepreneurship skills.
3. Curriculum planners should develop entrepreneurial programs leveraging Igbo cultural expression, such as cultural tourism initiatives and artisanal enterprises.
4. Schools should encourage collaboration between cultural practitioners, entrepreneurs, and policymakers to harness the entrepreneurial potential of Igbo music and cultural practices.
5. Educators and policymakers should explore the potential of AI in developing entrepreneurial mindsets and skills among secondary school students in South East Nigeria.
6. Igbo traditional music and cultural practices should be incorporated into entrepreneurial education in South East Nigeria.
7. Establish Igbo traditional music archives and documentation centers.
8. Integrate Igbo traditional music into education and community engagement initiatives.

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