Reengineering Fine and Applied Arts Education for Sustainable Knowledge Economy in a Digitalized World

Iorliam, Martins Aondona

Department Of Fine And Applied Arts, College Of Education, Katsina-Ala, Benue State

ABSTRACT

For a sustainable knowledge economy, art must play a central role. This paper delves into the vital roleof art in reengineering Nigerian education for sustainability within the context of our digitalized era. Explicitly focusing on Fine and Applied Arts Education, considering its unique roles, especially in the visual arts domain.Fine and Applied Arts, as a problem-solving discipline, provides the foundation for inventions and innovations. Beyond its intrinsic value, art is also used to teach other subjects, making it an essential component of both formal and informal education. By recognizing art's significance and integrating it comprehensively, an enhanced knowledge dissemination can be fostered for a sustainable economy. The qualitative data sourcing from journals, books, and online sources is adopted to corroborate the discourse, while, highlighting the critical role of Fine and Applied Arts Education in shaping Nigeria's sustainable knowledge economy, emphasizing the importance of art across various educational, social, political, and economic contexts.

Keywords: 'Reengineering', 'Arts Education', 'Sustainable', 'Knowledge Economy', 'Digital'.

I.   INTRODUCTION:

The intersection of arts education and sustainable knowledge economy is increasingly critical, in our ever rapidly evolving digital era. Fine and Applied Arts Education, encompassing visual arts disciplines such as painting, sculpture, and textiles plays a pivotal role in shaping both individual creativity and societal progress. This study aims to unveil the vital roles of art in reengineering Nigerian education for sustainability within the context of our digitalized world.

Art possesses a unique ability to communicate complex ideas to society in the simplest language. Whether as visual imagery, aesthetics, or conceptualization, art bridges gaps, sparks innovation, and foster critical thinking. As we navigate the knowledge economy, integrating art into educational systems becomes imperative. Art is not merely decorative; it is a problem-solving discipline. Creative skills, combined with the ability to visualize and conceptualize, form the bedrock of inventions and innovations. Beyond its intrinsic value, art also serves as a conduit for teaching other subjects, making it an essential component of both formal and informal education.

To reengineer arts education, we must repackage and reposition Fine and Applied Arts. By emphasizing its unique roles-especially within the visual arts- we can empower learners to think critically, adapt to digital tools, and contribute meaningfully to sustainable knowledge economies.Accenting the symbiotic relationship between arts education, digitalization, and sustainable knowledge economies,has potential of furthering exploration and realization of the set frameworks.Therefore, Fine and Applied Arts education must be intentional and fundamental to the educational system, making it accessible to all disciplines of our educational system. Through intentional integration, we can harness arts' transformative power to bear on other disciplines for a more sustainable future.

Several authors have interrogated arts education potentials to reengineer differing learning domains, from Emordi-Nnoruka, Okpaluba, and Uzor, (2023), consideration of art education as instrumental in communicating concepts in simple and understandable ways, Fadli,Acevedo, Malevicius, and Lamberti (2024),explored the role of art and creativity in education for sustainability. Similarly, these same authors in an earlier article in 2020 had interrogated aesthetics and education for sustainability, culture,

and organization(Alacovska, 2020). While Barack, (2017), considered Cloud Pedagogy: Utilizing web-based technologies for promotion of social constructivist learning in science teacher preparation courses, Calavia, Blanco, and Casas, (2020) claims that arts education is capable offostering creativity as problem-solving competence through design: Think-Create-Learn, a tool for teachers, Thinking skills and creativity, and Edwards, (2008), Drawing on the Artist Within, have all accented arts education's transformational propensities to foster and reengineer other domains of knowledge economy sustainably. These and many other authors have interrogated several other learning domains in relation to arts education, who for want of space are not included, accenting the transformative and sustainability potentials of arts education to enhance the knowledge economy.

Conceptualization: (Reengineering, Arts Education, Sustainable, Knowledge Economy, Digital)

Reengineering: Reengineering in the educational context refers to the process of redesigning and improving educational systems, processes, and practices to achieve better outcomes. In Nigeria, this involves addressing various challenges such as inadequate funding, corruption, and outdated teaching methods to create a more effective and resilient education system. By adoption of information communication technology (ICT), Teacher training and professional development, Curriculum reforms, Quality Control, and Community based education initiatives. Reengineering can transform the educational landscape in Nigeria to be more adaptive, inclusive, and effective to make the knowledge economy more sustainable.

Arts Education: Arts education involves teaching and learning in the visual and performing arts, such as music, dance, drama, and visual arts. It aims to develop students' creativity, critical thinking, and cultural awareness(Enamhe, 2013). In the Nigerian educational context, arts education plays a crucial role of fostering holistic development and preserving cultural heritage.

Thus, the Tivkwagh-hir theatre provides an excellent example of integrating traditional arts into education. Kwagh-hir as a form of theatre, combines storytelling, puppetry, music, and dance to teach moral and cultural values. Kwagh-hir can be taught and used in schools to make learning more meaningful,culturally relevant, and engaging. Creative arts programs in universities particularly at Nsukka and Zaria have robust creative arts

programs that provide students opportunities to develop their artistic skills andcontribute to enhancing the cultural landscape of Nigeria(Fatima, 2016).Community art projects like 'Art for Social Change', in Lagos, uses visual arts to address social issues and encourage community participation can be re-enacted across communities nation-wide. While at the same time organizing National Arts Competitions on regular basis can help nurture young artists and promote cultural exchange among different regions of Nigeria. More so, the integration of arts in basic education has not only potentials of helping to preserve Nigeria's rich diverse cultural heritage, but also help students foster creativity and critical thinking.

Sustainable: Sustainable development in education refers to creating an educational system that meets the needs of the present without compromising the ability of future generation of learners to meet their own needs(Itari, 2018). Sustainable educational development in Nigeria, particularly in the context of reengineering the knowledge economy, involves transforming educational systems to foster innovation, economic growth, and social equity. This transformation is crucial for equipping students with skills and knowledge needed to thrive in a rapidly changing world. Sustainable educational development can be integrated into Nigeria's education system by providing hands-on-training in technology(re-engineering EdTech systems),(Sci-EngineeringReourceCentres), focusing on integrating ICT and technological pedagogies into education, promoting practical skills and critical thinking which are high demands in knowledge economy. These systems will make for flexible learning opportunities that would allow for more people to gain the skills needed for the knowledge economy. Institutions like national Open University of Nigeria (NOUN) have significant roles in this regard. Besides, this can promote literacy aimed at lifelong learning and critical thinking essential for sustainable development. By integrating sustainable development principles into education, Nigeria will be working towards creating a more resilient and innovative knowledge economy.

Knowledge Economy: The knowledge economy refers to an economy driven by the production, distribution, and use of knowledge and information(Wagner, 2021). In the context of reengineering arts education for sustainable development in Nigeria, it involves transforming arts education to foster creativity, innovation, and cultural awareness to contribute to economic

growth and social equity. Arts education can be reengineered to align with the principles of sustainable development to foster a generation of creative, innovative thinkers who can contribute to the knowledge economy of Nigeria. The efforts are not only aimed at enhancing educational outcome but also support broader economic and social development.

Digitalize: Digitalized refers to the integration of digital technologies into teaching, learning, and practice of the arts. This transformation aims to enhance creativity, accessibility, and relevance of arts education, in preparing students for the demands of the knowledge economy while promoting sustainable development(Wagner, 2021). Not only can a digitalized integrated teaching and learning enhance the technical skills of both teachers and learners, but it can also be a key driver in preparing people for careers in the digital world. The rising digital platforms support online art exhibitions, with artists and art students showcasing their work online(Alacovska, 2020).

At present there are virtual galleries where artists can exhibit their work to a global audience. This digital shift occasionedan increased accessibility and visibility for Nigerian artists. Also, digital transformations have brought about e-learning and virtual classrooms, allowing institutions like National Open University of Nigeria, offer online courses in various art disciplines, especially for students in remote areas,hence supporting lifelong learning. Integration of digital technologies into arts education has madedigital storytelling and animation gradually popular, helping students to develop competences that are highly relevant in the entertainment and media industries in Nigeria.Thus, birthing a generation of artists who are not only creative but also technologically adept. The digitalization supports sustainable development by making arts education more inclusive, innovative, and aligned with the needs of the knowledge economy.

Historical Perspectives of Fine and Applied Arts Education in Nigeria

The historical perspectives of Fine and Applied Arts education in Nigeria are deeply rooted in the country's cultural heritage and influence of colonial and post-colonial developments/ underpinnings. Before colonial influence, art education in Nigeria was primarily informal and community based. "It was deeply integrated into daily life and cultural practices, with skills passed down through apprenticeships. Traditional art forms included pottery, weaving, sculpture, and beadwork, which were taught within families and communities"(Oloidi, 1986).

The introduction of formal art education in Nigeria began during the colonial period. The colonial administration established schools that followed Western educational models, which included art education. However, this often led to the marginalization of traditional art forms in favour of European styles and techniques(Fatima, 2016). Asignificant figure in the development of modern art education in Nigeria was Aina Onabolu, who is often referred to as the father of modern Nigerian art(Onuchukwu, 2001). He advocated for inclusion of art in the school curriculum and emphasized the importance of training Nigerian art teachers. His efforts led to the establishment of formal art education programs in Nigerian schools.

After Nigeria gained independence in 1960, there was renewed focus on promoting Nigerian culture and heritage through art education. Universities like University of Nigeria, Nsukka, and Ahmadu Bello University, Zaria, established fine and applied arts departments that combined traditional Nigerian artforms with contemporary practices(Bassey, 2020). In recent years, there has been a push to integrate digital technologies into art education. This includes the use of digital media, online platforms, and e-learning tools to enhance the teaching and learning of fine and applied arts. For instance, University of Lagos has incorporated digital media into its arts programs, to prepare students for the digital economy.

Challenges and Opportunities:

Despite the advancement so far witnessed, arts education in Nigeria is faced with challenges such as inadequate funding, lack of resources, and societal undervaluation of the arts. Ensuring that students have access to the latest technology and software is crucial for preparing them for the knowledge economy. However, many art schools in Nigeria lack the necessary infrastructure, and students often have trouble accessing high quality digital tools and internet connectivity. Though, there are ongoing efforts to address these issues through curriculum reforms, teacher training, community-based art projects, and industry collaboration. Teacher training and professional development remains imperative to ensuring educators stay updated with latest trends and technologies in the arts. The often-societal undervaluation of arts education compared to other fields like science and technology continue to impede student enrollment and consequently

support for the arts. Though the perceptions of many are changing owing to efforts aimed at highlighting the economic and cultural value of the arts, through festivals and national competitions.

Roles of Fine and Applied Arts Education as a problem-Solving Discipline:

Fine and applied arts education plays a significant role as a problem -solving discipline and enhances general education through its integration with other subjects. Arts education encourages students to think creatively and develop innovative solutions to problems. For instance, students at the University of Nigeria, Nsukka, engage in projects that require them to use artistic skills to address real world issues, such as designing sustainable products or creating awareness campaigns through visual arts. Besides, arts education fosters and enhances critical thinking, a process that involves critical analysis and decision-making. Art students learn to evaluate their work and the work of others, which enhances their critical thinking skills. This is evident in programs that the Creative Arts Department at Ahmadu Bello University, Zaria offer, where students critique and improve their artistic projects.

Arts education helps students understand and appreciate diverse cultures and perspectives. Initiatives like the Tiv kwagh-hir theatre in Benue State use traditional arts to teach cultural values, address social issues, while also promoting social change. Integration of arts education with science, technology, engineering, and mathematics (STEM) creates a more holistic educational approach known as STEAM(Clark, 2015). For instance, schools in Lagos incorporate arts into their STEM programs to enhance creativity and innovation among students. Arts education can be used to teach environmental sustainability. In some schools in Nigeria, students create artworks from recycled materials, learning about environmental conservation while developing and horning their artistic skills. Moreso, art education supports language and literacy by encouraging storytelling, drama, and creative writing. Programs like the 'Art for Social Change' project in Lagos use visual arts and drama to improve literacy and communication skills among students.

Digitalization and Arts Education:

Digitalization and arts education play a crucial role in fostering and sustaining adaptations leading to an enhanced accessibility and inclusivity, to innovative learning methods(like virtual reality and augmented reality), cultural preservation and evolution (helps in maintaining cultural heritage, assisting artists to reinterpret traditional forms with the aid of digital media), global collaboration and exchange (fosters interconnectedness and adaptive art communities globally), sustainable practices (where digital tools take over physical tools to reduce waste and environmental impacts), and adaptation to technological changes.

Arts education that incorporates digital skills prepare students to adapt to the rapidly changing technological landscape, hence sustaining relevance in the digital age. As such, integrating digitalization into arts education creates a more inclusive, innovative, and sustainable cultural landscape that adapts to the needs of the present while preserving the richness of the past.

Sustainability and Economic Impacts:

Arts can serve as a powerful economic driver while maintaining sustainable practices through several key strategies, like promoting the acquisition and use of sustainable materials and methods. Artists and arts organizations can prioritize the use of ecofriendly materials and sustainable production methods. That include using recycled or biodegradable materials, to reducewaste, while adopting energy-efficient practices. Supporting Local Economies by sourcing materials locally and collaborating with local artisans, helping to boost local economies, and reduce the carbon footprint associated with transportation. This will also help preserve traditional crafts and skills(Hosagrahar, 2017). Art has the unique ability to raise awareness about environmental issues and advocate for sustainable practices. Through exhibitions, performances, and public art projects, artists can engage communities and inspire action towards sustainability.

Integrating sustainability into Arts Education curricular ensures that future generations of artists are aware of and committed to sustainable practices. That often include teaching about the environmental impact of different materials and encouraging innovative, eco-friendly approaches to art-making. Leveraging digital platforms can reduce the need for physical materials and spaces, thereby minimizing environmental impact. Virtual galleries online performances, and digital art can reach a global audience timely. Partnerships between art organizations and environmental groups can lead to impactful projects that combine artistic expression with environmental advocacy(United Nations Sustainable Development Goals/ How the Arts are building a transformative bridge to 2030, 2024).

These collaborations can amplify messages about sustainability and drive community engagements. Arts institutions can adopt green policies, such as reducing energy consumption, implementing, recycling programs, and using sustainable building practices. These policies not only reduce environmental impact but also set an example for audiences and other organizations. By integrating these strategies, the arts can continue to drive economic growth while promoting and maintaining sustainable practices. This dualfocus on economic and environmental sustainability ensures that the arts contribute positively to both the economy and the planet.

Reengineering strategies to optimizing Arts Education:

Arts education can be reengineered to better prepare teachers, engage communities, and provide students with a rich, relevant, and sustainable learning experience by adopting strategies for curriculum redesign in the context of teacher training, community engagements and several other reengineering strategies. An integrative curriculum design that integrates arts education with other subjects, to promote interdisciplinary learning is imperative. This approach helps students see the relevance of arts in various contexts and encourages creative thinking across disciplines.

Professional development is needful for teachers, to enhance their skills in both arts' education and community engagement. Therefore, workshops, seminars, and collaborative projects can help teachers stay updated with the latest pedagogical strategies and technologies. The incorporation of community-based projects into the curriculum will allow students to engage with local artists, cultural institutions, and community organizations. These projects can provide real-world learning experiences and foster a sense of community involvement.

More so, the use of digital tools and resources to enhance arts education is an imperative. Hence online platforms, virtualand augmented realities can provide immersive learning experiences and make arts education more accessible to a wider audience. The need for collaborative teaching models where teachers from different disciplines work together to design and deliver integrated lessons cannot be overemphasized. This approach can enrich the learning experience and provide students with diverse perspectives.

Reflective and feedback practices among teachers and students can be encouraged. Regular feedback sessions and reflective reviews can help identify areas for improvement and foster a culture of continuous learning and adaptation. Partnership with cultural institutions like museums, galleries, theatres, and others in the cultural sector can be encouraged and sustained. These partnerships can provide valuable resources, expertise, and opportunities for students to experience the arts in various forms.Accommodating inclusive and diverse curriculum reflects diverse cultural perspectives and contributions from various communities, resulting to inclusivity that can enrich the learning experience and promote cultural understanding and appreciation.

Existing Case Studies of Best Practices Models of a Reengineered Arts Education:

According to the National Art Education Association (Research, 2020), several case studies and best practices models underscoring successful reengineering of arts education exists. These case studies demonstrate that reengineering arts education through interdisciplinary learning, community engagement, professional development, and the use of digital tools can lead to significant benefits. By adopting these best practices, we can create a more inclusive, innovative, and sustainable arts education system.

Arts for Life's sake: (The Case for Arts Education)

Overviewing this report by the American Academy of Arts and Sciences emphasizes the importance of arts education in personal and professional development, social sustainability, and community engagement. The best practices of Arts for life's sake are underscored in interdisciplinary learning, by integrating arts with other subjects to create a holistic learning experience. It also encourages community engagement, involving local communities in arts educationto foster a sense of belonging and cultural appreciation. Professional development through continuous training for teachers to keep them updated with new pedagogical strategies and technologies is sustained.Thelessons learned are that arts education builds well rounded individuals and supports social and emotional development. It enhances school engagement and culture and develops valuable life and career skills.

Reinvesting in Ars Education:

In overviewing 'Reinvesting in Arts Education', the report on this model, by the National Art Education Association highlights the link between arts education and achievement in other subjects. The best practices in this model hingeson its collaborative teaching models, that encourages teamwork between arts and non-arts teachers to facilitate and enrich the curriculum. Using digital tools that leverage technology to provide immersive and accessible arts education and an inclusive curriculum, ensures that reflects diverse cultural perspectives. The lessons learned from this model is that arts education can significantly improve academic performance in other subjects, fostering creativity, critical thinking, and problem-solving skills.

Community-Based Arts Education Programs:

In overviewing 'community-based programs, a record of successfully integrated arts education with community engagement abounds, addressing local needs and promoting cultural sustainability(Kintz, 2011). The best practices here lie in local partnerships. Collaborating with local artists, cultural institutions, and community organizations, to implement community-based projects that provide real-world learning experiences, that are reflective practices. That encourage students and teachers to reflect on their experiences continuously to improve.The lessons learned from community-based projects are that arts education strengthens community ties and promotes cultural preservation. Also, it provides students with practical skills and a deeper understanding of their cultural heritage.The case studies demonstrate that reengineering arts education through interdisciplinary learning, community engagement, professional development, and the use of digital tools can lead to significant benefits. By adopting these best practices, we can create a more inclusive, innovative, and sustainable arts education system.

II.   CONCLUSION:

Reengineering arts education is crucial for fostering creativity, cultural awareness, and critical thinking in students. By integrating contemporary practices and technologies, arts education can become more relevant and engaging, preparing students for the challenges of the modern world. Reengineering has potential to enhance cultural identityby incorporating diverse cultural expressions and traditional artforms, such as Tiv kwagh-hir sculptures, arts education can strengthen students' connections to their heritage and promote cultural pride. Arts education can promote social change, being a powerful tool for addressing social issues and encouraging civic engagement. Through creative expression, students can explore and communicate complex social themes, to foster empathy and understanding. Integrating sustainability into arts education encourages students to think critically about environmental issues and explore innovativesolutions through artistic practices.

To ensure the continued evolution and relevance of arts education, the following directions ought to be considered:

i. Curriculum Innovation: the development of curricula that blend traditional art forms with modern techniques and digital tools, ensuring a comprehensive and inclusive approach to arts education.

ii. Professional Development: Provide ongoing training for educators to stay updated with the latest trends and technologies in the arts, enabling them to effectively guide and inspire their students.

iii. Community Engagement: Foster partnerships between schools, local artists, cultural organizations to create a vibrant arts ecosystem that supports students' learning and growth.

iv. Research and Evaluation: Conduct regular research to access the impact of reengineered arts education programs and identify areas for improvement, ensuring that the education system remains dynamic and responsive to changing needs of the society.

By embracing these strategies, arts education can continue to play a vital role in shapingwell-rounded, culturally aware, and socially responsible individuals.

REFERENCES

[1]. Acevedo, B. M. (2022). Aesthetics and education for sSemantic Scholarustainability. Google Scholar, 1-16.

[2]. Alacovska, A. B. (2020). The Role of the Arts in the Digital Transformation. Copenhagen Business School, B I Norwegian Business School. Arts Formation. Retrieved from https://papers.ssrn.com/sol3/papers cfm

[3]. Bassey, A. B. (2020, July). State-of-the-art in the teaching of fine and applied arts in

colleges of education in Nigeria. African educational Research Journal, 9(3), 548-654. doi:10.30918/AERJ.93.20.001

[4]. Clark, S. G. (2015, February 8). Integration and Interdisciplinarity: concepts, frameworks, and education. Springer Link, 48, 233-255. Retrieved from https:///link.springer.com/article/10.1007/s11077-01555-9210-4

[5]. Emordi-Nnoruka, M. O. (2023). Rengineering Fine and Applied Arts Education for Sustainable Knowkedge Economy in a Digitalized World. Awka journal of Fine and Applied Arts, 9(2). Retrieved from htttps://www.nigerianournalsonline.com/index.php/ajofaa/article/4259

[6]. Enamhe, B. B. (2013). the role of Arts Education in Nigeria. African Journal of Teacher Education, 3(1), 1-7. Retrieved from https://www.academia.edu/90427864/The_Role_of_Arts_Education_in_Nigeria

[7]. Fadli, H. A. (2024). Raw Tag: Art and Education for Sustainability. In S. S. Samantha Parsley, & S. Samantha Parsley (Ed.), Palgrave Studies in Business, Arts and Humanities (Art and Sustainability Transitions in Business and Society) (pp. 147-176). Sringer Nature. doi:105.112.17.10

[8]. Fatima, M. P. (2016). Prospects and Challenges in Teaching of Art Education: A Nigerian Experience. Awka Journal of Fine and Applied Arts, 3, 92-96. Retrieved from https://www.nigerianjournalsonline.com/index.php/ajofaa/article/

[9]. Hosagrahar, J. (2017). Culture: at the heart of Sustainable Development Goals. In UNESCO, Agenda 2030: challenges for us all. UNESCO. Retrieved from htttps://www.unesco.org/en/articles/culture-heart-sustainable-development-goals

[10]. Itari, P. E. (2018, May). Education for Sustainable Development in Nigeria and other Developing Nations. British Journal of Education, 6(5), 41-51. Retrieved from https://www.eajournals.org

[11]. Kintz, G. (2011). First Principle: Community Engagement in Education Programs. USAID/EQUIPI/CARE. American Institute For Research. Retrieved from https://www.equip123.net

[12]. Oloidi, O. (1986). Growth and Development of Formal Art Education in Nigeria, 1900-1960. Transafrican Journal of History, 15, 108-126. Retrieved from https://www.jstor.org/stable/24328610

[13]. Onuchukwu, C. F. (2001, November). A Brief History and Development of Art-Education in Nigeria: The Years 1923-1963: Some challenges and Suggested Solutions. The Nigerian Academic Forum, 1(4), 170-180. Retrieved from https//globalacademicgroup.com/journals

[14]. (2024). SDGs. Global Leaders Instituee for Arts Innovation. Retrieved from https://www.globalleadersinstitute.org/blog-post/ the-united-nations-sustaiable-development-goals

[15]. (2020). Studies, Findings, and Resources. National Art Education Association. Retrieved from https://www.edu-links.org

[16]. Wagner, E. (2021). Arts Education and Sustainable Development. Examples from Around the Globe and what We Can Learn from Them. In E. S. Wagner, Arts and Sustainability and Education, Yearbook of the European Network of Observatories in the Field of Arts and Cultural Education. Springer, Singapore. Retrieved from https://doi.org/10.1007/978-981-16-4352-9_1