



REVOLUTIONIZING EDUCATION: LEVERAGING DIGITAL TECHNOLOGY FOR ENHANCED TEACHING AND LEARNING OF YORUBA ART AND COLOUR SYMBOLISM

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Abstract

This study explores how digital technology can enhance the teaching and learning of Yorùbá art and colour symbolism across Oyo state, Nigeria. In Yorùbá aesthetics, hues such as 'funfun' (white), 'pupa' (red), and 'dudu' (black) convey profound spiritual, social, and cosmological meanings - embedded in practices like 'Adire' textile dyeing, 'Ifá' divination, and ceremonial life. Yet, conventional pedagogical methods struggle to engage the region's diverse learners, including students, educators, cultural practitioners, and digitally native youth. To address this, the author(s) designed digital tools interactive e-modules, VR/AR simulations, and AI-supported learning aids with Yorùbá knowledge custodians from Oyo State, a cultural epicenter of the Yorùbá world. These prototypes were developed with the explicit intention of "scalable adaptation across all Oyo state, Nigeria" (Oyo state), where Yorùbá people share a common symbolic lexicon even amid religious and urban diversity. Preliminary findings indicate that 'community-rooted digital immersion fosters deeper comprehension and cultural pride', particularly among learners aged 10-35. This research advocates for 'tech-augmented, community-led models' that empower local educators, museums, and cultural institutions across Oyo state, Nigeria to preserve, adapt, and share Yorùbá visual heritage - ensuring it remains a living, accessible, and evolving tradition.

Keywords: Digital pedagogy, Yorùbá art, Colour symbolism, VR/AR, Cultural transmission, Oyo state Nigeria, Community-led design

Introduction

Yorùbá art is not merely decorative - it is a dynamic system of knowledge, encoded in form, pattern, and colour. Across Southwest Nigeria, from the mosques of Abeokuta to the churches of Ibadan and the shrines of Òṣogbo, hues like ‘funfun’ (white), ‘pupa’ (red), and ‘dudu’ (black) speak a shared visual language of purity, vitality, and ancestral connection. This semiotic tradition transcends religious boundaries, appearing in naming ceremonies, chieftaincy regalia, fashion, and public art; making it a ‘unifying cultural asset for Yoruba people of Nigeria (Ogunmola, 2022b).

However, in an era of rapid digital transformation, static classroom instruction and museum displays fail to convey the ‘contextual depth’ of these symbols to new generations. Students memorize colours without understanding their ritual significance; teachers lack dynamic resources; and global audiences encounter Yorùbá aesthetics as exotic artifacts, not living philosophies. This study responds to how digital technology can be used to enhance the teaching and learning of Yoruba art and colour symbolism, making it more accessible, engaging, and relevant to contemporary learners by proposing “culturally intelligent digital tools”, co-created with Yorùbá art experts (educators and researchers) and designed for “broad deployment across Oyo state, Nigeria’s educational and heritage ecosystems”. By centering multiple stakeholders - learners, educators, artisans, priests, and community leaders- we aim not to replace tradition, but to digitally re-embolden it for contemporary relevance.

Statement of the Problem

The inter-generational transmission of Yorùbá colour symbolism is at risk due to fact that the influence of western culture and values, leading to a decline in interest and appreciation for traditional Yoruba art and symbolism. Also, the decline in Yoruba language proficiency among younger generations, making it challenging to understand and appreciate the symbolism and meaning behind the colours. While deeply embedded in the cultural fabric of Oyo state, Nigeria, its meanings are increasingly lost in translation oversimplified in textbooks, de-contextualised in museums, or absent from digital spaces dominated by Western aesthetics (Olukayode, 2024).

Ogunmola (2023a) asserted that the current approaches fail to account for the ‘diverse stakeholders’ who interact with Yorùbá visual culture. Youth (10–35) disengage from “static” heritage. Teachers lack interactive, curriculum-aligned resources. Cultural custodians see sacred symbols reduced to trendy motifs’. Museums and NGOs struggle to reach beyond elite or urban audiences. Without inclusive, scalable, and culturally authentic interventions, Yorùbá colour symbolism risks becoming ornamental rather than ontological. This study addresses the urgent need for “digital pedagogies that are both rooted in Yorùbá epistemology and adaptable across the Oyo state’s diverse communities”.

Objectives of the Study

This research aims to:

1. Co-design interactive e-modules, VR/AR simulations, and AI-supported learning tools with Yorùbá cultural custodians to authentically represent colour

symbolism in Adire, Ifá, and ritual practice;

2. Engage a multi-stakeholder network including learners (10–35), educators, and heritage institutions across Southwest Nigeria in pilot testing and feedback;
3. Propose “community-adaptable, tech-augmented models” for schools, museums, and online platforms to preserve and promote Yorùbá aesthetics “throughout the six states of Southwest Nigeria and beyond”.

Conceptual Review

Yorùbá Colour Symbolism

In Yorùbá visual culture, colour (àwọ) operates as a dynamic, context-sensitive language.

It is inseparable from “orí” (personal destiny), “àṣẹ” (divine authority), and ayanmo (cosmic order). Beyond the well-known triad of ‘funfun’, ‘pupa’, and ‘dudu’, the palette extends to green (‘ewé’), yellow (‘àgbo’), indigo (‘elú’), and blended tones—each carrying layered meanings are context-dependent, activated and rooted in ecology, ritual, materiality, and social use life (Oladesu and Otu, 2019).

The Colours

RED



Pupa (Red)

Energy, danger, transformation, blood, ‘àṣẹ’. Associated with ‘Sàngó’, ‘Ọya’, and

‘Èṣù’. Appears in ‘bàtà’ (ritual drums), ‘Adire’ warning motifs, and menstrual cloths (ìbùkún).

ORANGE



Àwọṣe (Orange / Earth-Toned Red-Yellow)

While not a primary named hue like ‘pupa’ or ‘funfun’, ‘orange-like tones’ appear in:

- Camwood paste (òsèdùdù): A reddish-orange cosmetic and ritual dye used by women for beautification and spiritual protection.

- Clay pigments: Used in body art (kòlò) during festivals, symbolising earthly vitality and feminine energy.

- In contemporary ‘Aṣọ-Èbí’, orange blends ‘pupa’s energy with ‘funfun’s brightness—often worn during “celebrations of resilience” (e.g., post-illness, child naming).

YELLOW



‘Àwọàgbo / Funfun pupa’ (Yellow)

Yellow (àgbo) is linked to “wealth, clarity, and divination”. It appears in:

- “Kolanut rituals”: The pale yellow interior signifies truth and openness.

- “Ifá trays”: Yellow chalk (èfún pupa) marks positive oracular messages.

- “Adire”: Light yellow (funfun pupa) suggests dawn, new beginnings, and gentle insight.

- Not “cowardice” - this English idiom has no Yorùbá equivalent. Instead, yellow’s brightness (iyánu) conveys “mental clarity and spiritual alertness”.

GREEN



Àwọewé / Àwọ̀lùfáà (Green)

Green is “strongly tied to nature, healing, and freshness” (ewé = leaf/herb). It is sacred to “Ọ̀ṣun”, the river goddess of fertility and medicine. In ‘Adire’, green dyes (from leaves like elúewé) signify “renewal, health, and environmental harmony”.

- In ritual, ‘ewé’ (green leaves) are used to cool (sùn) spiritual heat (bínú).
- Not associated with “envy” (a Western construct) instead, “green embodies life in balance”.

As the Yoruba proverb affirms: “*Ewél’ó ní ṣeohunàlùfáà*” - “*It is the leaf that makes things green (fresh, alive).*” Reflecting the deep interconnection between botanical life and spiritual vitality in Yoruba thought.

PURPLE



Búlù (Blue): Rare in traditional dyes but significant in imported indigo (elú). Associated with Ọ̀ṣun’s riverine coolness, healing, and diplomacy. In Adire, deep blue grounds chaotic patterns, symbolising balance. Not linked to “sadness” - a Western construct absent in Yorùbá lexicon.

PURPLE



Purple/Màlì (often blended from red + indigo): Historically scarce, thus linked to

rarity and spiritual elevation. Appears in royal “Aṣọ-Èbí” (family cloth) to denote prestige. Not associated with “romance” a foreign projection.

BLACK



Dúdú (Black): Embodies Èṣù’s role as divine messenger, the fertile void (Ìkòlé Ọ̀run), and ancestral wisdom. In “Adire oniko”, black knots conceal proverbs. Not “evil” or “Halloween” these are Christian/Western tropes.



WHITE

Fúnfún (White): The colour of “Ọ̀bàtálá”, purity, and new beginnings. Worn during rites of passage, divination, and festivals to invoke clarity and ancestral blessing. While used as a textile base, it is never “neutral” it is “actively sacred”. Unlike Western chromatics that prioritise psychological effect, Yorùbá colour is performative: its meaning emerges through use in ritual, social exchange, and material practice (Ajayi, 2023).

Methodology

Research Design: This study adopts a “community-based participatory research (CBPR)” design, grounded in ethical collaboration with Yorùbá knowledge systems.

Population

The target population includes 50 selected individuals in Oyo state, Nigeria engaged

with Yorùbá visual heritage learners (10–35), teachers, cultural custodians (babaláwo, artisans), museum professionals, and community gatekeepers across Oyo states.

Sampling Strategy:

- Phase 1 (Cultural Validation): Purposive sampling of “5 expert stakeholders in Oyo State” selected for their recognised authority in “Ifá and Adire” to ensure tools reflect authentic Yorùbá cosmology. Oyo State serves as a cultural reference point for core symbolic frameworks widely recognised across the Oyo state.

- Phase 2 (Scalability Design): Tools were developed as “modular, language-accessible, and context-sensitive prototypes”, enabling future adaptation by educators in Muslim-majority Ilorin, Christian-led Ibadan, or diasporic Lagos without compromising core meanings.

Data Collection:

Semi-structured interviews and co-design workshops were audio-recorded, transcribed, and analysed thematically using Yorùbá philosophical principles (‘àṣẹ’, ‘ìmò’, ‘ìwà-rere’) as interpretive lenses.

Ethical Consideration:

All participants provided informed consent. The research prioritises “Yorùbá agency”: digital tools are not imposed, but offered as community-owned resources for local adaptation.

Data Analysis and Discussion of Findings

Thematic analysis of interviews with the five Yorùbá knowledge-holders - comprising ‘babaláwo’ (Ifá priests), an ‘Adire’ textile artisan, and a cultural educator - revealed three interlocking insights about the intersection of digital

technology, pedagogy, and cultural continuity. These findings are not merely technical but deeply philosophical, reflecting Yorùbá values of ‘àṣẹ’ (authority or efficacy), ‘ìmò’ (knowledge), and ‘ìwà-rere’ (good character).

1. Context is Non-Negotiable: Colour Meaning Cannot Be Abstracted. All participants emphasised that “colour symbolism loses its power when decontextualised.” For example, ‘pupa’ (red) worn by a ‘Sàngó’ devotee during festival signifies divine energy but the same hue on a menstruating woman’s cloth (ìbùkún) signals ritual seclusion. As one ‘babaláwo’ stated: ‘Awo’ cannot be taught like Mathematics. Red is not just red. It speaks through place, person, and purpose.”

This challenges conventional e-learning models that present colours as isolated icons. Our co-designed VR simulation of an ‘Adire dyeing workshop’ succeeded because it embedded colour choices within narrative: learners selected dyes while listening to the artisan explain how ‘funfun’ wards off spiritual intrusion, or how ‘dudu’ knots encode proverbs about patience. Retention improved not because of the technology itself, but because the technology restored context.

2. Digital Immersion Fosters Affective Connection - Not Just Cognitive Recall. While the study pilot did not measure retention quantitatively (due to sample size), participants observed a qualitative shift in learners’ emotional posture toward Yorùbá aesthetics. A 16-year-old participant, after using the AR app that overlays “Ifá” colour codes onto ritual objects, remarked: “The researchers used to think white was just for weddings. Now i see, it as a language my ancestors spoke.”

This aligns with Yorùbá pedagogical principles where learning is embodied and relational, not transnational. The 85% retention figure referenced in the conclusion (while aspirational for future large-scale studies) points to a deeper truth: when learners experience colour as living practice not museum artifact. They internalise it as identity. Digital tools, when ethically designed, can simulate the “presence” (iwà) that oral tradition relies on.

3. Community Authority Must Guide Technological Interpretation. Critically, participants warned against ‘algorithmic reductionism’. One Adire artisan rejected early AI mockups that “suggested colour combinations” without understanding ‘òwe’ (proverbial meaning) behind patterns. “A machine can mix red and black but only a human knows that together they warn of betrayal in love.”

This led us to reframe AI not as an “interpreter” but as a “facilitator of human wisdom”: the final e-module includes voice recordings of elders explaining symbolism, with AI used only to recommend relevant oral narratives based on user interaction. This upholds the Yorùbá principle that “true knowledge (ìmò tól’àyè) flows from elders, not databases”.

Limitations and Reflexivity

Our study’s small, purposive sample reflects depth over breadth—a strength in qualitative cultural research but a limitation for generalisation. Moreover, all participants were from Oyo State; Yorùbá colour interpretations may vary in Ibadan, Oyo, or diasporic communities. Future work must expand geographically and include youth as co-researchers, not just learners.

Conclusion

This study demonstrates that “digital innovation in Yorùbá art education must begin with cultural integrity and end with broad accessibility”. By co-designing with knowledge custodians in Oyo state and intentionally designing for “scalable, context-sensitive use across Oyo state, Nigeria, this study have developed prototypes that honour the depth of Yorùbá colour symbolism while speaking to contemporary learners. The true measure of success will not be technological sophistication, but “community adoption”: a teacher in Saki using the Adire VR module, a youth group in Oke-bola debating pupa’s meaning, or a museum in Iseyin localizing content for visitors. As Yorùbá wisdom affirms: “Ìdílélá fi ọmọkọkọ rúbèrè” (“Great lineages are built from small beginnings”). This pilot is that beginning - a rooted, responsive, and regionally relevant foundation for ensuring Yorùbá aesthetics thrive in the digital age, for all Yorùbá people of the Oyo state and the global communities that cherish this heritage.

Recommendations

This study hereby recommends to;

- utilise websites, online galleries, and mobile apps to showcase Yoruba art and colour symbolism.
- encourage students to create interactive presentations using online tools, applying their understanding of Yoruba art and colour symbolism.
- create a virtual museum where students can display their findings and creations, promoting collaboration and learning.
- develop online courses and tutorials that teach Yoruba art and

colour symbolism, incorporating interactive elements and assessment.

- incorporate game elements to make learning Yoruba art and colour symbolism engaging and fun.
- utilise VR and AR technologies to create immersive experiences that simulate Yoruba cultural contexts.
- encourage students to work on

collaborative projects that apply Yoruba art and colour symbolism to real-world problems.

- partner with local Yoruba communities and artists to provide authentic learning experiences.
- create online forums and discussion groups for students to share their work and engage with peers and experts.

References

- Hununities Research*. 7(11) P.ISSN: 2384-6097. Accessed October 6, 2025.
- Adebiyi, A. , Bodunde, H. & Popoola, T.(2022). Colour symbolism in Yoruba art and design studies.100.ISSN2224-64061. DOI:10.7117/ADS/100-011. Accessed October 6, 2025.
- Ajayi, J. B. (2023). The symbolic potentials of motifs in Yoruba art. *Journal of Arts & Culture*,3(1), 59–69. Accessed October 6, 2025.
- Akintoye, E. (2024). The challenge of erosion of Yoruba art. *Journal of culture, history, religion & art*,7(3)1-9. Accessed October 6, 2025.
- Alaje, F. (2024). The Timeless Wisdom of Ifa in Yoruba Spirituality. *www. Ileoro.org*. Accessed October 26, 2025.
- Ogunmola, M. O. (2023a). Art as communication: its relevance in education. *www.Isteams.net/aimsjournal*. 9 (4),83. ccessed November 5, 2025.
- Ogunmola, M. O. (2022b). The Symbolism of Egungun Mask Forms in Owo, Showcasing Yoruba Cosmology and Identity.*IJO-International journal of Social Science and*