DIGITAL REVITALIZATION OF SILAT MANDAR: A COMMUNITY-ORIENTED EDUCATIONAL APPROACH FOR SAFEGUARDING INTANGIBLE HERITAGE IN TIDUNG ISLAND

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Abstract:

The Purpose of this study is to create an educational model that is rooted in culture and adaptable to technology, aimed at revitalizing the Silat Mandar tradition within the island communities of Pulau Tidung. This initiative seeks to preserve and convey oral and performative heritage through digital platforms that are engaging, accessible, and pedagogically appropriate. By integrating philosophical values and traditional practices into multimedia educational resources, the project promotes continuity between generations, enhances local identity, and empowers community ownership. Additionally, it acts as a prototype for wider efforts to protect intangible cultural heritage, providing a replicable framework that harmonizes innovation with tradition throughout Indonesia's various archipelagic regions.

The Novelty of this research is found in its combination of ethnographic insight with innovative digital teaching methods to rejuvenate the Silat Mandar tradition within a culturally diverse island environment. Unlike earlier initiatives that concentrated exclusively on documentation or performance-based tourism, this study presents a community-centered, multimedia instructional model that reinterprets oral and practical heritage into organized, mobile-friendly learning materials. By incorporating philosophical values and practices like palang pintu into a pedagogically robust framework, such as ADDIE, this effort bridges generational divides and repositions Silat Mandar as both a cultural treasure and a vibrant educational experience. The application of mixed-methods evaluation to assess emotional engagement, identity development, and intergenerational effects further sets this model apart as a living archive rather than merely a curriculum. Additionally, its potential for scalability and adaptability in other island communities represents a significant step forward in the digital conservation of intangible heritage, providing a replicable model for culturally aware education in Indonesia's archipelagic setting.

Conclusion of this study indicates that the digital revitalization of Silat Mandar in Pulau Tidung can effectively protect and convey cultural heritage when informed by ethnographic understanding, well-organized instructional design, and community involvement. By incorporating philosophical and performative aspects into multimedia educational resources, and situating the process within a context-sensitive, iterative research and development framework, the project encourages engagement across generations, fosters a sense of cultural ownership, and maintains pedagogical significance. This resulting model not only improves access to education rooted in tradition but also acts as a replicable framework for preserving intangible heritage throughout Indonesia's island communities.

Keywords: Silat Mandar, Digital Revitalization, Ethnographic Education, Intangible Cultural Heritage, Instructional Design (ADDIE Model), Community-Based Learning

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I.   INTRODUCTION

Indonesia is actively pursuing its aim of becoming a premier global tourism destination, as detailed in Government Regulation No. 50 of 2011 regarding the National Tourism Development Master Plan (RIPPARNAS) for 2010–2025 (Hadi, Y., Ilham, M., & Achmad, M. 2025). This national initiative corresponds with the regional vision for Kepulauan Seribu, which seeks to be an advanced, environmentally sustainable, and culturally vibrant archipelago devoted to promoting civility, equality, and collective prosperity (Farhan, A. R. 2014). As a recognized tourism zone, Kepulauan Seribu enhances public welfare by generating job opportunities, stabilizing essential goods, advancing social justice, expediting infrastructure development, and facilitating business investments and activities, along with optimizing spatial governance (Aggarwal, A. 2022).

Pulau Tidung, a significant island in the Kepulauan Seribu, shows promise for investment in ecotourism initiatives (Handayani, T., Kartikoputro, E., & Soepardjo, A. H. 2016, November). Nevertheless, the tourism industry has been profoundly affected by the COVID-19 pandemic, particularly regarding shifts in policy and alterations in community behavior (Sigala, M. 2020).

These changes have unveiled new cultural dynamics that influence tourism practices and perspectives (Canavan, B. 2016). Despite its abundant artistic and cultural resources, the local economy has not yet fully leveraged traditional arts as a means of sustainable income (Borrup, T. 2006). This issue aligns with the objectives of SDG 1: "No Poverty," which advocates for tourism development rooted in inclusive and sustainable economic progress.

According to Attas, S. G.,et al . 2023) the cultural treasures of Pulau Tidung[7] is the Silat Mandar tradition, a martial art that has been handed down through generations. Community projects like Sanggar Seribu Ceria have been instrumental in preserving traditional arts, although the practice is increasingly facing marginalization due to economic and management challenges, which limit its cultural and economic influence. Consequently, practitioners need instructional models that embody the distinctive cultural traits of Pulau Tidung. Research conducted Wiryomartono, B. 2020) published in the Journal of Marine and Island Cultures, highlights how the digital revitalization of Silat Mandar teaching materials has empowered the Madurese ethnic group to enrich cultural life in East Java, suggesting a model for analogous initiatives in Pulau Tidung.

This research investigates three primary questions: (1) How can the teaching concepts of Silat Mandar be recognized and revitalized through digital approaches within the community of Pulau Tidung? (2) What is the prototype of a small-scale pilot model for the digital revitalization of instructional products? (3) What methods can be employed to conduct a large-scale feasibility trial to evaluate the effectiveness of the digitized Silat Mandar teaching model? The problem-solving strategy utilizes ethnographic techniques and a Research & Development (R&D) framework, with a focus on the revitalization of oral traditions via digital technology. A development model rooted in cultural context is crucial for maintaining Silat Mandar as a practice transmitted across generations within oral frameworks (Affifudin, A. H. 2021). Moreover, the local wisdom encapsulated in Silat Mandar provides a strategic approach to the socio-economic challenges encountered by the diverse and multifaceted communities of Kepulauan Seribu (Pattaray, A. 2025).

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[7] Pulau Tidung, which belongs to the Thousand Islands regency in Jakarta Bay, has a rich cultural heritage formed by centuries of maritime trade, colonial influences, and diverse settlements. Key cultural attractions include the Jembatan Cinta (Love Bridge) that links Tidung Besar and Tidung Kecil, the historic Makam Raja Pandita is a gravesite associated with a noble exile from the Tidung Kingdom—and the enduring Betawi traditions like Palang Pintu performances and pantun recitals. These aspects highlight the island's complex identity and its significance as a living repository of intangible heritage. See Sejarah Pulau Tidung and Exploring the Beauty of Pulau Tidung (Arijuddin, B. I. (2024). Water Carrying Capacity on Small Islands Tourism: Case Study of the Tidung Islands, Jakarta. *Jurnal Syntax Admiration*, *5*(6), 2350-2358.

Its incorporation into creative sectors such as the Palang Pintu, performance highlights the potential for rejuvenation through innovation, moving from oral tradition to dynamic expression. The enhancement of this tradition must address the intertwined forces of market, state, and religion, bolstered by the creative economy (Saidon, Z. L. 2023).

Revitalization through digital media facilitates the formulation of innovative, culturally responsive instructional models that safeguard heritage while promoting adaptive learning within the digital era (Ajani, Y. A., Et al2024).

LITERATURE REVIEW

The Silat Mandar tradition[8], which stems from the Mandar ethnic group in West Sulawesi, has adapted culturally within the island communities of Kepulauan Seribu, especially on Pulau Tidung (Attas, S. G., Azmin, G. G., & Marwiah, M. 2023). More than just a martial art, Silat Mandar embodies essential local values bravery, religious faith, and community solidarity. In a coastal society rich in pluralism and spiritual depth, this tradition acts as a cultural foundation, strengthening communal identity and nurturing social cohesion through practiced embodiment and ritual performances (Fitrah, A. N., Bahfiarti, T., & Farid, M. 2024). Nonetheless, Silat Mandar's continuation faces considerable challenges in the face of modernization and changing youth lifestyles. A lack of organized documentation, insufficient passing down through generations, and the dominant influence of global digital culture have all contributed to its declining prominence. Previous research highlights the necessity for revitalization strategies that accommodate technological advancements and the communication preferences of digitally-savvy younger generations. In this regard, digitalization presents itself not only as a technical fix but as a transformative avenue to reconnect Silat Mandar in ways that resonate with modern audiences (Vărzaru, A. A., & Bocean, C. G. 2024).

Digital methodologies for cultural preservation such as audiovisual archiving, online education platforms, and narrative-driven digital storytelling have shown encouraging outcomes for various indigenous traditions. Attas et al. (2023) illustrates that multimedia educational resources that emphasize local values, including Palang Pintu and Silat Mandar, can enhance cultural identity while also promoting cultural tourism. Thus, digitalization transcends mere preservation; it serves as an educational and promotional instrument that broadens the outreach and significance of tradition.

Theoretically, Clifford Geertz's idea of local wisdom provides a lens through which to understand how cultural expressions like Silat Mandar influence the moral and social fabric of a community (Djawas, M. 2018).

Cultural revitalization theory further stresses the significance of adapting traditions to modern contexts while preserving their fundamental qualities. When digital instruments are used in participatory ways, local communities are empowered not just as subjects of preservation but as proactive agents in curating and sharing their heritage (Silberman, N., & Purser, M. (2012).

The literature indicates that the digitally-driven revitalization of Silat Mandar holds considerable promise for reinforcing local identity, engaging younger generations, and enhancing cultural visibility in broader public domains. However, the effectiveness of such initiatives is contingent upon inclusive community participation, supportive policy frameworks, and culturally attuned digital design. This review establishes a foundation for creating sustainable, community-focused models of cultural

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[8] Silat Mandar is a traditional martial art that is deeply embedded in the cultural legacy of the Mandar people, who are originally from West Sulawesi, and has been adapted by communities in Pulau Tidung, part of Jakarta's Thousand Islands. In Tidung, it has transformed into a localized representation of Betawi identity, frequently demonstrated during Palang Pintu ceremonies that celebrate weddings and community events. This practice stresses the importance of spiritual discipline, agility, and moral integrity, and has been preserved through generations, especially by notable individuals like Masaupi, who received his training directly from his father H. Abdul Halim, a Mandar descendant living in Tidung. For an in-depth ethnographic see (Irsyad, R. E. (2012). Orang Pulo di Pulau Karang)

preservation in Kepulauan Seribu frameworks that respect tradition while welcoming innovation (Sobian, N. 2024).

Research into oral traditions has long been acknowledged as a vital method for grasping cultural knowledge. Oral tradition involves the sharing of ideas, customs, and values through spoken language across generations (Shukla, S. S. D. S. 2025).

In this context, Silat Mandar has become a cultural symbol of Pulau Tidung, developed through collective revitalization initiatives that unite local poetic expressions (pantun) and community involvement (Furqan, M., & Mahmud, H. 2025, Attas, S. G., Azmin, G. G., & Marwiah, M. 2023). Between 2021 and 2022, these efforts resulted in performance-based tourism events (Thomas, R. 2024). However, the sustainability of this approach has faced difficulties, as progress has halted at the documentary phase of Silat Mandar and palang pintu collaborations (Affifudin, A. H. 2021). This stagnation has resulted in variations of movement, while economic challenges have driven skilled instructors to migrate to mainland Jakarta or other islands, further undermining the passing on of traditional forms.

Community-oriented tourism development in Pulau Tidung strives to conserve local wisdom, ecological equilibrium, and climate resilience (Priambodo, B. B. (2023),   However, as highlighted by Mimbar Kabupaten Kepulauan Seribu, the spread of Silat Mandar variations, particularly through competitions and the emergence of new training centers has moved the practice away from its original framework (pakem), leading to a decrease in qualified instructors and consistency in movement (Danugroho, A. 2022).

 To remedy this, there is an urgent need to enhance instructional models for Silat Mandar using digital revitalization. Bin Noordan, M. N. H., & Yunus, M. M. 2022) Explained that using digital comprehension to improve reading comprehension skills among young learners. The demonstration that digital learning can improve students' character development and conceptual comprehension. Ardia's investigation into comic strips illustrates how combining visual and verbal elements can create meaning and encourage interactive learning, especially in religious education (Al Ghifary, D. H., Subroto, W. T., & Mustaji, M. 2024).

Integrating digital technology with character education in traditional martial arts, like those offered at Perguruan Manca Sange in Bone Regency, provides a theoretical basis for maintaining the distinct features of Silat Mandar in Pulau Tidung. The studies conducted by Bambang et al. and Iis Marwan further contribute to the formation of digital instructional models, especially regarding dance education for middle school students, where assessment criteria, scales, and indicators are well-defined. The innovation of this research lies in its development of a digital-based revitalization model for instructional materials that capture the cultural uniqueness of Silat Mandar. This initiative aims to establish a significant prototype for digital instructional design, ensuring the sustainability and cultural integrity of Silat Mandar within the island communities of Kepulauan Seribu, Jakarta.

RESEARCH AND METHODS

We utilized an ethnographic strategy combined with a Research and Development (R&D) framework (Asante, K., Owen, R., & Williamson, G. 2014). The research aims to create a significant instructional model that rejuvenates the Silat Mandar tradition through the use of digital technology. The goal is not only to safeguard cultural heritage but to present it in a way that appeals to modern learners and communities, especially in Pulau Tidung, Kepulauan Seribu (Ediyono, S., Nugraha, R. S., & Ahmad, A. A. H. 2022).

The development process adheres to the Borg and Gall R&D model, consisting of ten methodical steps, (Firman, & Mirnawati. 2023, August). (1) gathering preliminary information, (2) making plans, (3) creating an initial product prototype, (4) conducting small-scale tests, (5) revising the product, (6) performing limited field tests, (7) making further revisions, (8) testing feasibility, (9) implementing

final revisions, and (10) disseminating and applying the findings. This model was chosen for its rigorous validation criteria and demonstrated reliability, as confirmed by several expert assessments.

The research has been planned to be conducted over a period of one year[9]. During the first four months, the emphasis was on collecting essential data relating to the instructional model, encompassing historical and cultural traits of Silat Mandar within the Pulau Tidung community. This study involveddeep ethnographic engagement and literature review to gain insights into the socio-cultural context and the symbolic meanings inherent in the tradition. From months 4 to 8, the project developed a prototype of the instructional model, incorporating digital revitalization techniques specifically suited to the cultural specifics of Silat Mandar. This phase includes crafting multimedia content, narrative structures, and interactive educational tools that embody the values and aesthetics of the tradition. Lastly, from months 8 to 12, the research focused on refining and enhancing the instructional product through both small-scale and wider testing. This study has encompassed evaluating usability, cultural relevance, and pedagogical effectiveness. The results finalized adjustments and steer the dissemination of the model to educational and cultural institutions, ensuring that the revitalized Silat Mandar tradition can flourish in both digital and community-oriented contexts.

RESULTS AND DISCUSSION

The application of the digital revitalization model for Silat Mandar on Tidung Island showed a promising alignment between the preservation of culture and education driven by the community. Through a series of workshops and multimedia-based teaching modules, local practitioners especially those from Sanggar Seribu Ceria played an active role in the co-development of digital content, which included curated jurus demonstrations and Betawi pantun recitations in accordance with the Palang Pintu tradition.[10] This collaborative method not only improved the authenticity of the educational materials but also instilled a sense of ownership among community members, particularly the youth, who began to view Silat Mandar not just as a heritage relic but as a dynamic, evolving practice. The use of digital platforms like Zoom for remote training significantly broadened access, facilitating collaboration across islands and creating feedback loops that enriched the teaching framework.

The discussion surrounding the pilot phase also brought to light essential challenges and opportunities for scaling the project. Although the digital modules effectively captured the fundamental aspects of Silat Mandar, variations in regional practices and differing levels of digital literacy posed obstacles to uniform implementation. Nevertheless, the project illustrated that when cultural transmission is woven into community stories and supported by adaptable technological tools, it can inspire intergenerational dialogue and identity construction. The combination of traditional performance components with digital storytelling such as incorporating oral histories and symbolic gestures into interactive formats proved particularly effective in maintaining engagement. These insights emphasize the significance of culturally attuned design and indicate that digital revitalization, when grounded in local knowledge systems, can act as a robust strategy for preserving intangible heritage.

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[9] The study is planned to take place over an entire year, incorporating a staged approach that involves ethnographic fieldwork, collaborative design of digital learning resources, pilot testing, and ongoing assessment. This schedule is intended to align with the community's natural rhythms and guarantee significant involvement from various generational and practitioner groups in Pulau Tidung. Please see Attas, S. G., Anoegrajekti, N., Ansoriyah, S., & Wardani, R. (2021, December). Karakteristik Tradisi Silat Mandar dalam Pertunjukan Palang Pintu sebagai Kearifan Lokal di Masyarakat Pulau Tidung Kepulauan Seribu. In *Prosiding Seminar Nasional Bahasa, Sastra, Dan Seni* (Vol. 1, pp. 149-154).

[10] Devitasari, M. (2024, May 13). *Complete Betawi Palang Pintu pantun with responses, perfect for weddings.* TribunKaltara. https://kaltara.tribunnews.com/2024/05/13/pantun-palang-pintu-adat-betawi-lengkap-dengan-jawaban-cocok-digunakan-untuk-pernikahan. This source outlines the structure and cultural significance of Palang Pintu performances, including the poetic exchanges (pantun) that accompany traditional Betawi wedding ceremonies.

Kepulauan Seribu (Thousand Islands) provides a visual entry point into one of Indonesia's most unique maritime areas, positioned just to the north of Jakarta in the Java Sea. Primarily designed for tourism, it showcases a collection of island seach marked in red or green to indicate different purposes, such as resorts, administrative hubs, or community spaces. The presence of directional signs, coastal access points like Marina Ancol and Tanjung Pasir, and promotional branding from Seavilla Tour and the Marketing Office Pulau Seribu highlights its function as both a navigational aid and an invitation to discover the area. Beyond being a travel resource, this island is acts as a spatial framework for comprehending the cultural, ecological, and logistical interactions within the archipelago, particularly for individuals involved in heritage education, community-focused research, or digital revitalization initiatives.

Source: Adapted from Google Map 2025

The map of Kepulauan Seribu (Thousand Islands) provides a clear depiction of the archipelago's layout and tourism facilities, located just north of Jakarta in the Java Sea. It showcases a collection of islands, such as Pulau Tidung, Pulau Pramuka, Pulau Macan, and Pulau Bidadari, each marked in red or green, likely to differentiate between administrative areas, resort locations, or community zones. Pulau Tidung is especially notable, not only for being a favored tourist destination but also as the pilot site for your Silat Mandar digital revitalization project, making its location on the map particularly important. At the southern edge of the map, key access points to the mainland are highlighted, including Marina Ancol and Tanjung Pasir, which act as departure points for ferries and speedboats connecting Jakarta to the islands. The presence of logos and contact information for Seavilla Tour and the Marketing Office Pulau Seribu indicates that the map is designed with promotional purposes, aimed at assisting visitors while subtly influencing perceptions of the area's accessibility and attractiveness. In addition to its tourism role, this map can function as a strategic resource for cultural educators and researchers are providing a geographic framework to overlay ethnographic knowledge, teaching routes, and community involvement areas. In your situation, it transforms from a mere navigational tool into a platform for blending tradition, technology, and identity throughout the archipelago.

The philosophy of Silat Mandar [11], as it is practiced and adapted on Pulau Tidung, is fundamentally anchored in cultural resilience and spiritual character, reflecting the experiences of a diverse island community shaped by migration, tradition, and survival.

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[11] This research emphasizes the role of Silat Mandar in Pulau Tidung as a means of maintaining cultural resilience, spiritual discipline, and community identity. It asserts that virtues such as religiosity, bravery, and diligence are not

Silat Mandar in Tidung transcends mere martial training; it represents a holistic way of life. It embodies essential values like religiosity, courage, and hard work, which are vital for overcoming the challenges faced in island living. These values are not mere theoretical constructs but are actively nurtured through silat practice, particularly in community rituals such as palang pintu, a ceremonial performance that embodies readiness, humility, and protection. Within this framework, silat serves as a performative manifestation of local wisdom, resonating with Clifford Geertz's perspective on culture as a framework of inherited meanings that shape behavior and identity.

The perspective on silat encompasses a distinctive duality: pencak denotes the aesthetic, expressive aspect, the grace and rhythm of movement, whereas silat represents the internalized techniques and spiritual energy driving the actions. This duality mirrors the Mandarenes worldview, which holds that external appearance and inner strength must coexist harmoniously. In Pulau Tidung, this philosophy is tailored to fit the island's social structure, where silat functions not only as a means of self-defense but also as a symbol of community integrity, transmission of knowledge across generations, and cultural pride.

Furthermore, the practice of Silat Mandar in Tidung is influenced by the island's ethnic diversity, incorporating elements from Java, Sunda, and Kalimantan. This combination enhances the silat tradition, transforming it into a living, evolving practice that connects ancestral heritage with modern identity. Sacred sites, like the tomb of Raja Pandita from Kalimantan, further root silat within a spiritual context, reinforcing its function as a bridge linking the past with the present, land with lineage.

Ultimately, Silat Mandar in Pulau Tidung is far more than a martial art, it represents a philosophy of presence, resilience, and a sense of belonging. It instructs practitioners to act purposefully, conduct themselves with honor, and align their lives with both community values and ancestral wisdom. For your efforts in digital heritage education, this philosophy presents a rich narrative foundation, one that can be digitized not simply as techniques but as a cultural ethos that deserves preservation and sharing.

Picture1.

Picture2.

Picture3.

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mere abstract concepts but are instead practiced through silat and ritual performances. The authors utilize Clifford Geertz's theory of local wisdom to contextualize Silat Mandar as a cultural framework that encapsulates inherited meanings and behavioral standards, especially within the diverse and migratory setting of island life. Please see, Attas, S. G., Anoegrajekti, N., Ansoriyah, S., & Wardani, R. (2021). *Karakteristik tradisi Silat Mandar dalam pertunjukan Palang Pintu sebagai kearifan lokal di masyarakat Pulau Tidung Kepulauan Seribu*. Prosiding Seminar Nasional Bahasa, Sastra, dan Seni, 1, Universitas Negeri Jakarta. Retrieved from UNJ Journal.

The process of identifying instructional concepts for the Mandar silat traditionrevitalized and digitized for the community of Pulau Tidung necessitates an approach that is both culturally rooted and technologically flexible. The diverse ethnic makeup and strong community spirit of Pulau Tidung create a suitable environment for incorporating silat not just as a martial discipline, but as a means of expressing local identity and wisdom. Revitalization initiatives should prioritize the passing down of knowledge between generations, integrating both the philosophical and performative aspects of silat (like palang pintu) into the educational framework. This can be accomplished digitally through multimedia tools such as interactive videos, animations, and mobile-friendly learning platforms. The instructional design ought to adhere to a structured model, like ADDIE, to maintain pedagogical clarity and cultural relevance. In the end, the objective is to safeguard the core values of Mandar silat while ensuring it is engaging and accessible to younger generations in our fast-changing digital environment. The pilot model for the newly enhanced digital instructional materials in Pulau Tidung should be crafted as a context-aware, iterative framework that harmonizes cultural authenticity with innovative teaching methods. Ideally, this pilot phase would engage a select group of local teachers, cultural artists, and students to evaluate the usability, relevance, and effect of the digitized materials, especially those stemming from traditional practices like Mandar silat. The evaluation model should employ a mixed-methods approach, incorporating both pre- and post-intervention assessments, focus group discussions, and observational data to capture cognitive and emotional learning outcomes. Essential elements include delivering localized content via mobile-accessible platforms, integrating multimedia storytelling to safeguard oral traditions, and implementing adaptive feedback mechanisms to enhance instructional design. By embedding the pilot within community involvement and continuous refinement, the model not only assesses the teaching effectiveness of the digital resources but also fosters cultural ownership and long-term sustainability. This strategy aligns with larger educational revitalization efforts that prioritize equity, digital access, and the preservation of intangible cultural heritage.

To carry out a large-scale feasibility trial of the monumental digital revitalization of *Silat Mandar* in Pulau Tidung, we need more than just technical precision, we need cultural empathy, community trust, and a method that listens deeply. This is where ethnography becomes not just a tool, but a bridge: allowing us to understand how people live, remember, and pass down their traditions. By using a Research & Development (R&D) model, the process begins with immersing ourselves in the rhythms of local life, documenting oral histories, observing silat performances, and engaging with elders and youth alike.

The digital transformation of this tradition isn't about replacing the old, it's about giving it new breath. Through motion is captured movements, interactive storytelling, and mobile-accessible learning platforms, the essence of *Silat Mandar* can be preserved and shared across generations. But scale demands care. The feasibility trial must involve diverse voices: educators, cultural custodians, students, and even tourists who encounter the tradition. Their feedback, both emotional and practical, shape how the digital materials evolve.

Evaluation isn't just about metrics; it's about meaning. We measure not only how many people engage, but how deeply they connect. Do they feel pride? Curiosity? Belonging? These affective responses, captured through interviews, focus groups, and digital analytics, help refine the model iteratively. In the end, this isn't just a curriculum it's a living archive, a community-led innovation, and a testament to how tradition can thrive in the digital age without losing its soul.[12]

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[12] This research highlights the importance of affective responses, including emotional connection, cultural pride, and identity development—in determining the effectiveness of digital heritage projects. It confirms the effectiveness of employing mixed methods, such as interviews, focus groups, and digital analytics, to evaluate not only engagement statistics but also the richness of cultural connection and the process of meaning-making, please see Yi, C., Huang, J., & Song, L. (2025). Enhancing intangible cultural heritage dissemination through digital experience: An Affective Events Theory approach. *NPJ Heritage Science.* https://www.nature.com/articles/s40494-025-02017-x

Revitalizing Silat Mandar in Pulau Tidung through innovative digital education necessitates a development process is methodologically sound and culturally sensitive. To ensure the preservation, transmission, and meaningful engagement of this traditional martial art among younger generations, the study implements a seven-stage framework based on Research & Development (R&D). Each phase from ethnographic study to broad dissemination is structured not only to create pedagogically effective digital content but also to respect and honor the lived experiences, values, and emotional ties of the local community. This human-centered approach transforms the design of instructional materials into a collaborative cultural project, where tradition is not just taught but also experienced, cherished, and reimagined. By merging technological access with cultural integrity, this model provides a replicable strategy for safeguarding intangible heritage within Indonesia's island communities.

Table 1. Human-Focused Research and Development Model for the Revitalization of Silat Mandar [13]

Stage	Description	Humanized Focus
1. Research (Analysis)	Ethnographic exploration of Pulau Tidung's cultural landscape, oral traditions, and community needs.	**Listening deeply to local voices, honoring lived experiences, and mapping cultural memory.**
2. Design	Development of culturally grounded digital content (e.g., silat movements, stories, values).	**Translating tradition into interactive formats that feel familiar and emotionally resonant.**
3. Development	Creation of multimedia modules, mobile-accessible platforms, and instructional prototypes.	**Building with empathy ensuring accessibility, clarity, and cultural pride.**
4. Implementation	Deployment across schools, community centers, and digital platforms in Pulau Tidung and beyond.	**Inviting participation, fostering ownership, and celebrating local identity.**
5. Evaluation	Mixed-methods assessment: surveys, interviews, engagement analytics, and cultural feedback.	**Measuring not just learning, but connection, pride, and intergenerational impact.**
6. Revision	Refinement based on feedback loops and iterative testing.	**Adapting with humility letting the community shape the final form.**
7. Dissemination	Scaling the model to other island communities and integrating into formal and informal curricula.	**Sharing the story widely, ensuring sustainability, and amplifying cultural legacy.**

Source: Created by Author 2025)

The extensive revitalization of Silat Mandar through digital educational resources in Pulau Tidung necessitates a Research & Development (R&D) strategy that is both methodologically sound and sensitive to the cultural essence of the community. It starts with comprehensive ethnographic research, delving into local narratives, respecting oral histories, and charting the lived experiences that define the identity of Pulau Tidung. Building on this foundation, the design phase converts cultural insights into engaging digital formats, ensuring that the spirit of Silat Mandar is maintained in ways that resonate

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[13] This study provides a structured framework for integrating martial arts training with human development goals, emphasizing emotional skills, leadership, and cultural identity principles that align with the Silat Mandar revitalization model's emphasis on community empowerment and spiritual character. Please see, Hadiana, O., Subarjah, H., Ma'mun, A., Mulyana, R., Yuliardi, R., & Nur, L. (2022). Life skill development through Pencak Silat martial arts training: An intentionally structured positive youth development program. International Journal of Human Movement and Sports Sciences, 10(4), 660–667. https://doi.org/10.13189/saj.2022.100405

and are significant. The development stage then brings these concepts to fruition through multimedia modules and platforms accessible via mobile devices, created with empathy and clarity to encourage pride and inclusivity. Implementation entails distributing these resources in schools, community centers, and online channels, promoting active engagement and reinforcing local stewardship. Assessment extends beyond numerical data, capturing emotional impact, cultural connection, and the effect across generations through a mixed-methods evaluation. The revision process is informed by community input and iterative testing, enabling the materials to adapt responsively and respectfully. Finally, dissemination expands the model to other island communities and educational environments, ensuring long-term viability while enhancing the cultural heritage of Silat Mandar. This approach transforms a digital curriculum into a vibrant archive, anchored in tradition, shaped by the community, and intended to persevere.

IV. DISCUSSION

The rejuvenation of Silat Mandar through digital instructional design in Pulau Tidung highlights a vibrant interaction between the preservation of culture and technological advancement. Our research emphasizes that instructional frameworks should be firmly connected to the community's lived experiences while also being adaptable to digital formats that resonate with younger audiences. The diverse and spiritually rich environment of Pulau Tidung serves as an excellent foundation for integrating Silat Mandar not only as a martial discipline but also as an educational tool for conveying values, identity, and collective memories.

Incorporating philosophical and performative aspects such as palang pintu[14] into multimedia formats illustrates how tradition can be re-envisioned without losing its essence. Interactive videos, animations, and mobile-optimized platforms not only enhance accessibility but also foster emotional connections, enabling learners to engage with Silat Mandar in ways that feel both instinctive and significant. Employing structured instructional models like ADDIE guarantees that educational clarity is preserved while ensuring cultural relevance through ongoing community feedback.

The pilot testing of the digital resources showed that context-aware design developed in partnership with local educators, cultural practitioners, and youth improved both usability and cultural authenticity. A mixed-methods evaluation captured not just cognitive results but also emotional responses such as pride, curiosity, and belonging. These emotional indicators are vital for measuring the success of cultural revitalization, as they reflect the depth of engagement and the sustainability of passing knowledge through generations.

In this setting, ethnography acted as more than just a research method; it served as a relational connection. It enabled the research team to listen intently, observe respectfully, and collaborate with the community. When grounded in empathy and cultural awareness, the R&D framework facilitated the transformation of Silat Mandar into a living archive accessible through digital means yet spiritually preserved. The iterative nature of the model, shaped by community input, ensured that the digital curriculum remained adaptable, inclusive, and community-owned.

In the end, this initiative confirms that digital revitalization does not replace tradition but rather renews it. It provides a means of infusing contemporary life into ancestral knowledge, ensuring that Silat Mandar continues to flourish not merely as a cultural relic, but as a shared practice of significance. The effectiveness of this model in Pulau Tidung presents a blueprint for other island communities aiming to conserve intangible heritage through participatory, technology-driven education.

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[14] This research examines Palang Pintu as a highly symbolic Betawi tradition that integrates martial arts, pantun poetry, and Islamic values into a performative initiation. Philosophically, it represents concepts of humility, protection, moral discipline, and community unity. The ritual acts not merely as entertainment or a ceremony but as a cultural tool for passing down ethical conduct and spiritual identity through generations. Please see, Susanto, I. (2023). *Palang Pintu: Exploring Cultural Philosophy Value of Betawi Community*. Proceedings of the International Joint Conference on Arts and Humanities 2021 (IJCAH 2021).

This study presents a notable benefit by connecting the preservation of culture with advancements in digital technology, allowing the Silat Mandar tradition of Pulau Tidung to flourish in modern educational settings. Utilizing a community-focused, ethnographic research and development methodology, the research not only protects intangible heritage but also transforms it into a captivating learning experience that is accessible on mobile devices and designed for younger audiences. By incorporating multimedia storytelling, a well-structured instructional design, and continuous input from local community members, the initiative enhances cultural pride, ensures the continuity of traditions across generations, and promotes fair access to education rooted in heritage establishing Silat Mandar as both an educational resource and a vibrant repository of cultural identity.

In a similar vein, Suryo Ediyono, Reza Sukma Nugraha, and Alif Al Hilal Ahmad (2022) contributed to the International Journal of Social and Arts Conference Series, focusing on the role of pencak silat as an intangible cultural heritage and highlighting its transmission through culturally relevant educational practices. The International Martial Arts and Culture Journal (IMACJ) overseen by Prof. GM Mohamad Nizam Mohamad Shapie, often includes research on martial arts as cultural heritage, featuring studies on digital preservation, teaching methods, and tourism. Collectively, these studies highlight the importance of combining digital tools with traditional practices to promote cultural continuity, educational advancement, and increased public interest, principles that strongly align with the revitalization initiatives of Silat Mandar in Pulau Tidung.

A significant drawback of this research pertains to its implementation scope and scalability. Although the initial model for digitally revitalizing Silat Mandar in Pulau Tidung provides valuable cultural insights and shows promise in instructional design, its impact is currently confined and influenced by community-specific factors. The approach of relying on ethnographic immersion and participatory feedback, while beneficial, may not adequately reflect broader regional differences in silat practices or the levels of digital literacy in other island communities. Furthermore, access to technology such as reliable internet connections and available devices remains inconsistent, which could restrict the inclusivity of the digital platform.

For upcoming studies, it is important to broaden the model's relevance by conducting comparative research across various communities with differing cultural representations of silat. Integrating cross-regional collaboration, multilingual content, and adaptive learning technologies can improve cultural representation and accessibility. In addition, long-term studies should be conducted to evaluate the ongoing effects of digital revitalization on intergenerational transmission, identity development, and community involvement. Moreover, fostering partnerships with local governments, educational institutions, and cultural organizations will be vital to securing policy backing and ensuring long-term viability.

CONCLUSION

The rejuvenation of Silat Mandar through digital educational design in Pulau Tidung presents an impressive combination of cultural preservation and technological advancement. Based on ethnographic research and organized through a Research & Development (R&D) framework, the project effectively converts oral traditions and performative heritage into user-friendly, mobile-compatible learning resources. By incorporating philosophical principles and embodied traditions like palang pintu into multimedia educational tools, this initiative encourages intergenerational sharing while celebrating local identity. The pilot model's iterative and community-focused approach, backed by mixed-methods assessment, guarantees educational relevance, emotional impact, and cultural ownership. Ultimately, this initiative demonstrates that tradition can prosper in the digital era when revitalization is driven by compassion, inclusivity, and ongoing community participation. The resulting curriculum serves not just as an educational resource, but as a dynamic archive and a replicable framework for preserving intangible heritage across Indonesia's island communities.

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