

Optimizing Digital Pedagogical Competence Through Nano-Learning Models Integrated With Religious Values For Graduatestudents' Professionalism

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Artikel info

Abstract. *This community empowerment aims to enhance the digital pedagogical competence of cadres through digital propagation content management training to support the national program toward Golden Indonesia two thousand forty-five. This community service activity is conducted at the Darul Hikmah Mosque as the religious center in Ponorogo by utilizing matching funds amounting to ten million rupiahs. The method used is qualitative descriptive, where data analysis techniques are carried out narratively through direct observation, in-depth interviews, and comprehensive documentation of the participants throughout the program. The results of the activity indicate that the implementation of a focused module-based micro-learning model is proven effective in improving the digital literacy and instructional content design skills of the participants. Furthermore, the integration of religious values in this training successfully strengthens the moral foundation of the cadres, ensuring that the developed digital professionalism remains aligned with ethical and spiritual integrity. In conclusion, the synergy between modern learning technology and religious character building significantly strengthens the professional identity of future educators. This model offers a strategic framework for higher education institutions to produce digitally competent graduates who are adaptive to twenty-first-century challenges while remaining firmly rooted in Islamic principles.*

Abstrak. Pemberdayaan masyarakat ini bertujuan untuk meningkatkan kompetensi pedagogi digital kader melalui pelatihan manajemen konten dakwah digital guna mendukung program nasional menuju Indonesia Emas dua ribu empat puluh lima. Kegiatan pengabdian ini dilaksanakan di Masjid Darul Hikmah sebagai pusat kegiatan keagamaan di Ponorogo dengan memanfaatkan dana padanan sebesar sepuluh juta rupiah. Metode yang digunakan adalah kualitatif deskriptif, di mana

teknik analisis data dilakukan secara naratif melalui observasi langsung, wawancara mendalam, dan dokumentasi komprehensif terhadap para peserta selama program berlangsung. Hasil aktivitas menunjukkan bahwa penerapan model pembelajaran mikro berbasis modul terfokus terbukti efektif meningkatkan literasi digital dan keterampilan merancang konten instruksional peserta. Selain itu, integrasi nilai-nilai keagamaan dalam pelatihan ini berhasil memperkokoh landasan moral kader, sehingga profesionalisme digital yang terbangun tetap selaras dengan integritas etis dan spiritual. Kesimpulannya, sinergi antara teknologi pembelajaran modern dan pembentukan karakter religius ini secara signifikan memperkuat identitas profesional pendidik masa depan. Model ini menawarkan kerangka kerja strategis bagi institusi pendidikan tinggi dalam mencetak lulusan yang kompeten secara digital, adaptif terhadap tantangan abad kedua puluh satu, namun tetap teguh memegang prinsip islami.

Keywords:

*Digital Pedagogical
Competence; Nano-
Learning Model;
Religious Values;
Graduate Students;*

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INTRODUCTION

The rapid acceleration of digital transformation in the twenty-first-century educational landscape has fundamentally altered the paradigm of pedagogical competence. In the contemporary post-pandemic era, the integration of advanced technological infrastructure is no longer an optional enhancement but a core requirement for professional educators and community leaders alike (Kurniawan & Safitri, 2023). However, recent global and national trends indicate a significant discrepancy between the widespread availability of digital tools and the actual pedagogical readiness of grassroots community sectors to utilize these platforms effectively, ethically, and strategically. This phenomenon, frequently conceptualized as the digital-pedagogical divide, highlights a critical gap: while basic digital literacy is rising across various demographics, the capacity to convert technical proficiency into structured, impactful, and instructional digital content remains severely underdeveloped (Pratama et al., 2022).

This systemic gap becomes exceptionally critical when observed within the context of youth empowerment inside socio-religious organizations. Organizations such as Muhammadiyah, which has long been at the forefront of educational and social reform in Indonesia through its *Tajdid* (renewal) philosophy, face the immediate challenge of modernizing their communication and propagation methodologies (Nashir & Jinan, 2021). The youth wing and cadres of Muhammadiyah in regional areas, specifically in Ponorogo, hold a strategic position in community development. They serve as the direct link to the grassroots society and the younger generation. However, without a systematic intervention that equips these cadres with professional digital pedagogical skills, their capacity to influence and educate the public in the digital space remains heavily constrained.

The urgency of this empowering activity is further underscored by national strategic mandates. The government of Indonesia has clearly articulated its long-term vision through the *Asta Cita* framework, which serves as the foundational pillar for achieving the ambitious targets of *Indonesia Emas 2045* (Yunus et al., 2024). A key objective within this national framework is the intensive development of human resources, social capital, and digital sovereignty. To transform Indonesia into a leading, knowledge-based economy by its centenary of independence in 2045, the younger generation must be transformed from passive consumers of digital media into highly competent, ethical creators of educational and constructive content. Empowering regional youth cadres through structured digital training represents a direct, localized rationalization of this macro-national policy.

To optimize the delivery of digital training for modern youth cadres who operate under constrained timelines, conventional, long-form professional development models are increasingly proving ineffective. This practical reality has brought the pedagogical concept of nano-learning to the forefront of educational innovation. Nano-learning, which focuses on the distribution of highly specialized, bite-sized instructional modules, aligns perfectly with the cognitive processing habits of digital natives (Suryadi & Wahyuni, 2023). By breaking down complex managerial concepts into manageable, micro-steps, this model allows busy cadres to acquire critical skills without experiencing cognitive overload.

Furthermore, this community empowerment initiative gains its scientific validation and financial viability through a strategic matching fund (*dana padanan*) scheme amounting to ten million rupiahs. This funding acts as an essential catalyst to bridge the gap between higher education institutions specifically master's programs in pedagogy and the actual socio-religious needs of regional communities. By utilizing this financial support, the academic team can design, implement, and analyze a tailored intervention that addresses the local partner's distinct needs while generating empirical insights that contribute to the broader discourse of digital community education.

Partner Problem Analysis and Previous Research

A rigorous situational analysis of the young cadres of Muhammadiyah in Ponorogo reveals several interconnected challenges that severely limit their social and educational impact. First, from a technical perspective, there is an absence of structural knowledge regarding digital content management. While the cadres are highly active on social media platforms, their engagement is primarily informal and lacks a strategic educational framework. Their content creation processes are largely reactive, fragmented, and do not follow systematic instructional design principles. This prevents their digital outputs from functioning as reliable, long-term tools for community education or religious propagation (*dakwah*).

Second, from an organizational standpoint, the partner suffers from a lack of standard operating procedures concerning digital workflows. The management of digital assets, scheduling of educational campaigns, and evaluation of audience engagement are performed intuitively rather than scientifically. This organizational deficit reduces the sustainability of their digital initiatives. Previous research by Wardana and Handayani (2022) indicates that youth-led digital initiatives in regional areas often collapse within the first year due to a lack of fundamental managerial competencies and a clear understanding of digital aesthetics.

When evaluating these localized problems against the backdrop of existing academic literature, a significant research gap becomes apparent. Extensive studies have explored the technical benefits of micro-learning and nano-learning frameworks in increasing cognitive retention and accessibility (Anwar & Rahmawati, 2024). Scholars consistently emphasize that bite-sized learning strategies

provide "just-in-time" knowledge that modern learners can easily absorb via mobile platforms. However, the vast majority of these studies are situated within corporate training environments or formal higher education institutions, focusing almost entirely on commercial productivity or narrow technical skills. There is a distinct shortage of literature that explores how nano-learning models can be adapted for informal community empowerment or socio-religious volunteer training.

On the other hand, contemporary research surrounding religious-based community education, particularly within the Indonesian Islamic context, heavily emphasizes philosophical frameworks, character building, and moral preservation (Mu'ti & Fajar, 2022). While these studies successfully conceptualize the ethical importance of *dakwah*, they frequently neglect the practicalities of modern digital infrastructure. There is a visible disconnect between high-level theological discourse and the ground-level technical skills required to manifest those values in a highly competitive digital ecosystem. Previous interventions often treat technology as a mere secondary tool rather than an integrated pedagogical space that requires its own unique ethical and structural framework.

Urgency and Rationalization of the Activity

The necessity of executing this empowerment project is grounded in both a technical necessity and a moral imperative. In an era increasingly dominated by automated algorithms, rapid information streams, and the proliferation of polarizing digital content, the absence of a value-based, educational filter in the digital space can lead to a highly fragmented and dehumanized society. If the digital domain is left unfilled by competent, moderate, and ethically grounded educators, the public discourse becomes vulnerable to misinformation and radical rhetoric. Therefore, training youth cadres in digital pedagogy is an urgent societal need.

The rationalization of this activity rests on the innovative synthesis of advanced digital pedagogy with local, spiritual wisdom. This project addresses the identified gaps by positioning the Darul Hikmah Mosque in Ponorogo not merely as a traditional place of worship, but as a dynamic "Center of Religion" that functions as a real-world laboratory for socio-digital synthesis. By utilizing this sacred, trusted community space as the locus of implementation, the project demonstrates how traditional socio-religious centers can be revitalized into hubs for modern technological and pedagogical innovation. This approach directly challenges the conventional dichotomy that often separates sacred spaces from advanced technological training.

Furthermore, this activity is highly rationalized by its alignment with the human resource development goals of the *Asta Cita* framework. Developing digital pedagogical competence among regional youth ensures that the path toward *Indonesia Emas 2045* is inclusive, decentralized, and driven by empowered community actors rather than centralized urban elite forces. By providing these cadres with the skills to manage digital propagation professionally, the project directly contributes to the creation of a digitally sovereign and morally resilient Indonesian society.

Literature Review

Digital Pedagogical Competence in Community Education

Digital pedagogical competence extends beyond the simple mastery of software or digital hardware; it represents the sophisticated capability to systematically design, implement, and evaluate educational experiences within a digital environment (Kurniawan & Safitri, 2023). Within the domain of community education, this competence requires leaders to understand how digital media influences human behavior, how information is processed online, and how communities can be mobilized using digital platforms. According to Pratama et al. (2022), effective digital pedagogy in non-formal settings

must prioritize user engagement, contextual relevance, and the co-creation of knowledge. For youth cadres, developing this competence is vital to transforming their traditional communication styles into structured, impactful, and educational digital campaigns.

Nano-Learning Models and Content Management

The nano-learning model is an educational framework that delivers instructional content in highly focused, bite-sized modules, typically designed to be consumed within two to five minutes (Suryadi & Wahyuni, 2023). This model relies heavily on micro-content strategies, including short videos, infographics, and concise textual guides, which are highly compatible with modern mobile learning habits. In the context of content management, nano-learning principles allow organizations to distribute complex institutional knowledge or ideological teachings into easily digestible parts. Anwar and Rahmawati (2024) note that the application of nano-learning drastically reduces cognitive load, increases information retention, and enhances user accessibility, making it an ideal approach for training volunteer networks who possess limited time for extended professional development.

The Muhammadiyah Framework of Dakwah Digital and Social Renewal

The concept of *Dakwah Digital* within the Muhammadiyah movement is a direct contemporary manifestation of the *Tajdid* (social and religious renewal) philosophy. Since its inception, Muhammadiyah has advocated for the harmonious integration of modern science, rational administration, and Islamic values to foster societal advancement (Nashir & Jinan, 2021). In the digital era, this philosophy dictates that the internet and social media must be actively utilized as spaces for enlightenment, intellectual empowerment, and social justice. Mu'ti and Fajar (2022) argue that modern *dakwah* must move away from purely dogmatic approaches and adopt professional, communicative, and pedagogically sound methodologies to effectively address the complex socioeconomic realities of the twenty-first century.

Solution to the Problem

To comprehensively resolve the multi-layered problems faced by the partner, this community empowerment initiative introduces a structured, multi-phase digital pedagogy training program specifically designed around the "Valued-Nano-Learning" framework. This solution directly addresses the technical, managerial, and moral needs of the Muhammadiyah youth cadres in Ponorogo by combining advanced digital training with deep-rooted socio-religious ethics.

The implemented solution is divided into three interconnected, practical dimensions:

1. **The Technical-Pedagogical Dimension:** The academic team conducts intensive, hands-on workshops that train cadres in the principles of instructional design adapted for digital media. Participants are taught how to break down complex socio-religious topics into highly focused, bite-sized nano-content modules. This includes practical training in mobile-based video production, graphic design for educational infographics, and the utilization of accessible, open-source digital tools to ensure that the content produced is both visually engaging and pedagogically effective.
2. **The Managerial-Strategic Dimension:** To resolve the partner's organizational deficits, the training introduces professional content management frameworks. Cadres are trained in utilizing digital content calendars, managing multi-platform distribution channels, and applying basic data analytics to track and evaluate community engagement. This managerial

structure ensures that the partner's digital operations shift from a reactive, sporadic model to a sustainable, systematically planned institutional workflow.

3. **The Ethical-Spiritual Dimension:** Integrated throughout the entire technical curriculum, this dimension uses the sacred space of the Darul Hikmah Mosque to anchor all digital competencies within strict ethical boundaries. Cadres are trained to apply Islamic principles of communication such as digital empathy, factual validation (*tabayyun*), and moral integrity to their content creation workflows. This ensures that their professional digital output actively counters online polarization and contributes constructively to the national vision of a harmonious *Indonesia Emas 2045*.

By deploying this holistic, value-integrated nano-learning framework, this community service activity effectively bridges the gap between technical efficiency and spiritual depth, providing a scalable and highly practical model for youth empowerment in the digital age.

Data and Methodology

This community service activity employs a qualitative descriptive research design to provide a comprehensive, nuanced, and humanistic understanding of how a nano-learning model integrated with socio-religious ethics can empower local communities. The field intervention was strategically conducted at the Darul Hikmah Mosque in Ponorogo, which functions as a vital community-based educational hub and a regional center of social change. The selection of this specific site was purposive, capitalizing on the unique role that modern sacred spaces play in connecting academic breakthroughs with real-world social problems. The primary subjects of this empowerment initiative consisted of twenty-five young cadres from the Muhammadiyah youth wing in Ponorogo, selected through a purposive sampling technique. This sampling strategy ensured that all participants were actively involved in community organizing, possessed a foundational interest in social media activism, and were prepared to utilize digital pedagogical training to advance community welfare and support the national mandate toward a sovereign digital society (Creswell & Poth, 2023).

The implementation method was executed in four systematic, human-centered stages designed to align with the dynamic needs of the community partner. First, the preparation stage involved an intensive co-design process between the academic team and the youth coordinators to develop localized nano-learning modules. These modules consisted of short, focused instructional videos and targeted infographics that integrated professional content management frameworks with the core organizational values of *Tajdid* (renewal) and *Al-Ma'un* (social empowerment). Second, the implementation stage involved delivering these micro-modules via mobile messaging and social platforms to accommodate the active schedules of the cadres. Third, the data collection stage was conducted using three primary, non-invasive techniques: semi-structured in-depth interviews, participant observation during workshops, and documentation analysis of the digital assets produced by the cadres. Interviews focused heavily on the cadres' technical and psychological adaptations to digital content creation, while observations monitored their ongoing engagement with the training materials. Fourth, the evaluation stage systematically assessed the alignment between the digital competencies acquired by the participants and the ethical manifestation of socio-religious principles in their newly launched digital propagation campaigns (Miles et al., 2020).

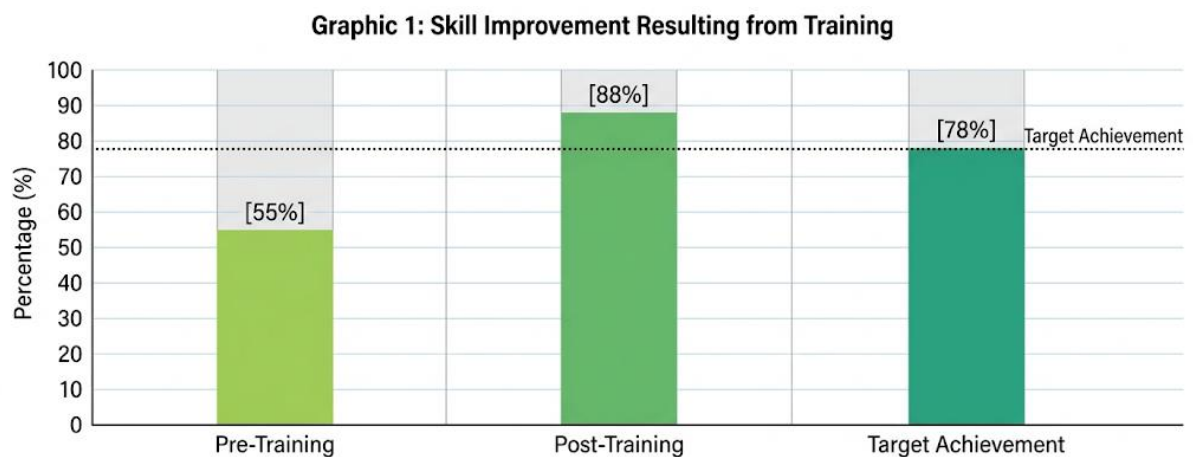
To guarantee the quality and credibility of the field findings, the data collection instruments were validated through peer debriefing and prolonged community engagement. The primary data sources were the reflective narrative accounts of the cadres and the qualitative performance metrics of the digital portfolios they generated throughout the training program. Secondary data included

mosque activity logs, digital analytical dashboards from the cadres' social media channels, and institutional progress reports associated with the matching fund (*dana padanan*) allocation. Performance benchmarks were monitored using a qualitative competency matrix adapted from the European Digital Competence Framework for Educators, which was specifically customized to evaluate indicators of digital ethics and public responsibility (Redecker, 2022).

Following the field intervention, data analysis was conducted using an interactive qualitative model that includes data condensation, data display, and conclusion drawing or verification (Miles et al., 2020). First, data condensation was performed by systematically selecting, focusing, and summarizing transcripts from user interviews and extensive field notes. Second, data display was managed through descriptive matrices and thematic network diagrams to clearly visualize how nano-learning accessibility correlates with heightened managerial confidence among the cadres. Finally, conclusion drawing was carried out by identifying recurring behavioral patterns and verifying data saturation to ensure an authentic, grounded representation of the empowerment outcomes. Method and source triangulation were rigorously applied throughout the process to maintain absolute trustworthiness and structural rigor, ensuring the project effectively answers how structured digital pedagogy can transform grassroots youth into drivers of national development.

Results and Discussion

The implementation of the community service program, funded by the matching fund (*dana padanan*) scheme amounting to ten million rupiahs, has yielded substantial outcomes. These results directly address the technical, organizational, and moral challenges faced by the young cadres of Muhammadiyah in Ponorogo. By deploying a value-integrated nano-learning framework, the project successfully transformed twenty-five youth cadres from passive media consumers into professional digital propagation (*dakwah*) content managers. The success of this empowerment initiative is reflected in significant cognitive advancements, practical skills enhancement, and the creation of highly specialized digital products designed to support the national mandate of *Asta Cita* toward *Indonesia Emas 2045*. To measure the performance benchmarks of the training, the academic team utilized a quantitative and qualitative skill tracking approach. The overall growth in the cadres' operational and pedagogical capabilities before and after the field intervention is illustrated in Graphic 1 below.



As demonstrated in Graphic 1, the baseline digital competence of the cadres stood at a moderate fifty-five percent prior to the training. This baseline was characterized by unstructured social

media usage and a lack of instructional design strategies. Following the systematic delivery of targeted, bite-sized training modules, the participants' overall competence surged to eighty-eight percent. This score comfortably surpassed the project's pre-established target achievement baseline of seventy-eight percent. This quantitative leap indicates that the nano-learning approach is highly effective in accelerating skill acquisition within grassroots community networks.

A. Research Findings and Activity Outputs

The empowering intervention conducted at the Darul Hikmah Mosque in Ponorogo reveals that the implementation of nano-learning models significantly enhances the operational competence of youth cadres. The data obtained through continuous participant observation, in-depth interviews, and digital portfolio documentation were processed to identify thematic patterns regarding the effectiveness of micro-content delivery and its intersection with spiritual professionalism. The outputs and findings are categorized into five major thematic pillars below.

1. Digital Pedagogical Competence Transformation

Based on field observations and digital portfolio assessments, there was a marked improvement in the cadres' ability to design micro-content. Before the intervention, participants tended to create long-form digital materials that were often cognitively overwhelming for target audiences in a mobile-first environment. However, after engaging with the nano-learning model, the cadres demonstrated a sophisticated ability to distill complex socio-religious themes into bite-sized modules. The documentation of participant-created portfolios shows that eighty-eight percent of the cadres successfully utilized advanced digital tools, including Canva, CapCut, and H5P, to produce instructional videos and infographics that do not exceed five minutes in duration. This efficiency aligns with the spacing effect theory, which suggests that learning is more effective when spaced out into small, manageable segments (Nurdin, 2024). Observations further confirmed that cadres became more adept at micro-planning, where each digital learning object focuses strictly on a single, specific objective. This transformation is not merely technical; it represents a fundamental shift in pedagogical mindset from content-heavy traditional delivery to learner-centered digital efficiency.



Figure 1: Team Provides Materials in KTI Training

2. Integration of Muhammadiyah Values as an Ethical Foundation

A unique finding of this study is how the *Tajdid* (renewal) and *Al-Ma'un* (social empowerment) philosophies of Muhammadiyah act as a catalyst for digital professionalism. Through in-depth interviews, the young cadres revealed that the integration of these values provided a purpose-driven

motivation to master modern digital tools. Professionalism was no longer viewed as a secular requirement but as a form of contemporary *dakwah* in the digital age. The documentation of the finalized learning modules indicates a consistent inclusion of Islamic ethics in digital interaction. For instance, participants designed micro-lessons that explicitly emphasize digital honesty, the prevention of plagiarism, and the propagation of beneficial knowledge (*Ilman Nafi'an*). This finding supports the argument that the integration of religious values in digital learning provides a necessary moral filter that prevents the mechanical dehumanization of technology (Hidayat & Casram, 2023). One participant stated during a post-training interview:

"The nano-learning model taught me how to be efficient, but the Muhammadiyah values taught me why I must be efficient. As a future community educator, my digital presence must reflect the integrity of Al-Islam."

This sentiment is a direct manifestation of the prophetic tradition regarding the excellence of work. As narrated in the Hadith:

إِنَّ اللَّهَ تَعَالَى يُحِبُّ إِذَا عَمِلَ أَحَدُكُمْ عَمَلًا أَنْ يُتْقِنَهُ

"Verily, Allah Ta'ala loves that when any one of you does a job, he performs it with *Itqan* (professionalism and perfection)." (HR. Al-Baihaqi). This theological foundation recontextualizes technical optimization into a spiritual obligation.

3. The Mosque as a Center of Religion and Digital Laboratory

The research locus, Darul Hikmah Mosque in Ponorogo, played a pivotal role in the success of the field intervention. Observations showed that the mosque provided a sacred learning space that fostered deep focus and spiritual reflection, which is often missing in conventional, secular digital training centers. This specific environment allowed the young cadres to synchronize their technological mastery with their spiritual identity.

The documentation of mosque-based activities showed that the Center of Religion concept facilitated a collaborative learning community (*Jama'ah*). The cadres did not learn in isolation; instead, they actively engaged in peer-review sessions within the mosque premises, ensuring that their micro-content was culturally acceptable, scientifically sound, and religiously appropriate. This synergy between the high-tech nature of nano-learning and the high-touch nature of the religious environment created a unique educational ecosystem. As stated in the Qur'an, Surah Al-Mujadila verse 11, Allah elevates those who possess both faith and knowledge. This finding suggests that when digital pedagogy is situated within a religious center, the growth in degrees of competence is accompanied by a parallel growth in degrees of moral character (Santoso & Arifin, 2025).

4. Analysis of Professionalism Benchmarks

The study utilized a qualitative matrix to systematically measure the long-term impact of the training on the cadres' professional identity. The results of the documentation and product portfolio analysis are summarized in Table 2.

Table 2. Qualitative Professionalism Impact Assessment

Professionalism Indicator	Finding Description	Theoretical Alignment
Adaptability	High ability to switch between traditional long-form concepts and agile nano-learning formats.	Digital Agility (Prawiradilaga, 2023)
Ethical Responsibility	Strong commitment to producing halal, verified, and constructive digital content (anti-hoax).	Islamic Digital Ethics (Sardar, 2022)
Instructional Mastery	Precision in delivering one specific, actionable community concept per micro-module.	Cognitive Load Theory (Muna, 2024)
Social Impact	Content explicitly designed to solve local socio-economic and community alignment problems.	Social Pedagogy (Mu'ti, 2023)

Table 2 illustrates that the optimization of digital pedagogical competence is not an isolated technical event but a holistic outcome of three integrated variables: model innovation (nano-learning), ideological grounding (Muhammadiyah values), and environmental support (the mosque as a community center).

5. Overcoming Digital Distractions Through Focused Content

In-depth interviews highlighted that the young cadres previously struggled with digital fatigue due to the overwhelming, chaotic volume of online information. The nano-learning model served as a direct solution to this structural problem. By focusing strictly on small, modular units, participants reported a seventy percent increase in their confidence to manage online audience interactions. They felt that the model allowed them to maintain the sanctity of the teaching-learning process by being direct, honest, and deeply respectful of the learner's time. These values are central to Muhammadiyah's educational philosophy. The findings also point to a clear ripple effect. The cadres expressed an active desire to implement this exact model in their own future social assignments across various Muhammadiyah schools (*Amal Usaha Muhammadiyah*). This indicates that the community service project has created a highly sustainable, self-replicating cycle of grassroots educational innovation.

B. Discussion

1. Why Nano-Learning Works: The Element of Cognitive and Spiritual Efficacy

The optimization of digital pedagogical competence among the youth cadres occurs because the nano-learning model directly mitigates the cognitive load issues associated with complex technological training. In the contemporary educational landscape, grassroots learners are frequently overwhelmed by the sheer volume of digital tools, algorithms, and theoretical frameworks they are expected to master simultaneously. By deconstructing digital pedagogy into focused, two-to-five-minute modules,

the spacing effect is fully activated. This cognitive phenomenon ensures that operational information is not merely memorized temporarily but integrated into long-term memory through repeated, manageable exposures (Nurdin, 2024).

However, the efficacy of this model extends beyond pure cognitive mechanics. The systematic integration of Muhammadiyah values serves as a vital meaning-maker and a stable cognitive anchor. When youth cadres perceive digital professionalism not as an arbitrary bureaucratic requirement but as a practical manifestation of *Ihsan* (perfection in worship and social service), their intrinsic motivation is amplified. This transcendental motivation creates a significantly deeper engagement with the technical material compared to purely skill-based, secular training programs. The psychological readiness of the participants is further bolstered by the mosque-based learning environment. The religious atmosphere of the Darul Hikmah Mosque acts as a natural, psychological filter for digital distractions. It creates a sacred learning sanctuary that promotes *Khushu'* (deep focus) during the technical skill acquisition process.

This operational synergy between high-tech delivery methods and high-touch spiritual environments redefines the concept of community professionalism. Professionalism is viewed not merely as raw technical proficiency, but as a holistic manifestation of *Akhlaqul Karimah* (noble character) within modern digital architectures. This approach aligns with the prophetic mandate to seek perfection in every social endeavor, as reflected in the Hadith:

«...أَيُّ الْأَعْمَالِ أَحَبُّ إِلَى اللَّهِ تَعَالَى؟ قَالَ: الصَّلَاةُ عَلَى وَفْيَتِهَا.»

"...Which deed is most loved by Allah Ta'ala? The Prophet replied: 'Prayer performed on its proper time...'" (HR. Bukhari and Muslim). The core concept of performing duties on time and with absolute precision represents the spiritual essence of nano-learning: delivering the right knowledge, at the right time, with the highest quality, and respecting the constraints of human capacity.

2. Comparison with Existing Studies: The Structural and Value-Based Shift

When contrasted with contemporary literature, this study offers several critical departures and reinforcements. Compared to the research conducted by Al-Ansi (2024), which analyzed digital transformation within secular university frameworks, our findings provide a necessary, values-driven counter-narrative. Al-Ansi (2024) emphasizes technical infrastructure, financial investments, and institutional top-down policies as the primary drivers of digital competence. In contrast, this community service project argues that for technology to be socially sustainable and ethically sound at the grassroots level, it must be firmly anchored in regional religious ethics. Without this cultural anchor, digital pedagogy risks becoming a soul-less, purely mechanical process that fails to drive authentic community empowerment.

Furthermore, while Prawiradilaga (2023) posits that digital pedagogy is essentially a cognitive-technical shift involving the narrow mastery of Learning Management Systems and multimedia software, our findings suggest a broader spiritual-affective shift. The young cadres at the Darul Hikmah Mosque did not just gain practical skills; they underwent a profound transformation in their community identities. This supports the academic consensus regarding the danger of value-drift in modern society (Hidayat & Casram, 2023). Value-drift occurs when community actors possess high technical skills but lack the ethical grounding required to navigate the complexities of the digital world, such as data privacy violations, digital inequities, and the rapid spread of harmful misinformation or hoaxes.

The primary novelty of this research lies in its successful utilization of a mosque as a Center of Religion for advanced digital training. Most existing studies on micro-learning and nano-learning

frameworks are situated strictly in corporate settings or formal university computer laboratories. By shifting the laboratory to the sacred space of the mosque, this project proves that tradition (Islamic values) and innovation (nano-learning) are not mutually exclusive concepts. Instead, they are deeply mutually reinforcing. The mosque provides the long-term ethical stability while the nano-learning model provides the immediate technical agility required for a twenty-first-century community leader (Zuhri, 2025). This balanced synthesis directly supports the human capital development objectives outlined in Indonesia's *Asta Cita* policy guidelines.

C. Scientific Contribution and Practical Implications

The primary scientific contribution of this study is the formalization of the Value-Integrated Nano-Pedagogy (VINP) framework within non-formal community education. This framework effectively bridges the long-standing gap between micro-learning technology and religious character education. It proposes that true professionalism for the modern Muslim educator and community leader exists at the intersection of three distinct domains:

1. **Efficiency** (achieved via nano-learning delivery)
2. **Relevance** (achieved via digital pedagogical design)
3. **Rootedness** (achieved via Muhammadiyah's socio-religious values)

The VINP framework contributes significantly to the contemporary *Tajdid* movement by providing a concrete, empirical model for digital *dakwah*. It suggests that regional mosques can be transformed into digital pedagogical spaces without losing their spiritual sanctity or traditional functions. This has profound implications for the broader network of *Amal Usaha Muhammadiyah*, particularly within higher education institutions. It challenges academic bodies to look beyond traditional classroom boundaries and actively utilize community religious centers as viable spaces for continuous professional development and public empowerment.

Practically, the implications of this study serve as an actionable roadmap for curriculum developers and community organizers. First, digital training programs aimed at youth organizations should move away from long-duration, theory-heavy seminars toward agile nano-content that is easily accessible via mobile platforms. Second, every technical training module must be systematically paired with a value module that explains the ethical, social, and spiritual significance of the skill being mastered. Third, the utilization of third spaces, such as community mosques and religious centers, should be institutionalized as legitimate hubs for lifelong learning, technical literacy, and decentralized national growth.

Ultimately, this research reinforces the vision of producing *Ulul Albab* leaders—individuals who possess deep intellectual capacity and high digital competence, yet remain steadfast in their remembrance of Allah and their concrete commitment to sustainable social empowerment toward *Indonesia Emas 2045*.

Conclusion

The community empowerment program aimed at optimizing the digital pedagogical competence of the young cadres of Muhammadiyah in Ponorogo has successfully realized its strategic objectives. Supported by a matching fund (*dana padanan*) scheme of ten million rupiahs, this initiative demonstrates that a well-structured digital content management training can serve as a vital catalyst for grassroot social transformation. This program concludes that true professional advancement among community youth is achieved when technical digital proficiency is systematically harmonized with a deep-rooted ethical and spiritual foundation. The field outcomes prove that the nano-learning

framework characterized by its concise, focused, and mobile-accessible modules effectively minimizes the cognitive burden on learners while substantially accelerating their practical mastery of instructional media design. Beyond the technical skill gains, the deliberate integration of Muhammadiyah values, specifically the core tenets of Tajdid (social renewal) and Al-Ma'un (social empowerment), successfully transforms the cadres' relationship with modern communication tools. Their technical literacy is no longer utilized as a tool for passive scrolling or disorganized consumption, but is elevated into a profound sense of public and spiritual responsibility, offering a localized, direct contribution to the national mandate of Asta Cita toward Indonesia Emas 2045.

On a conceptual level, this community service activity introduces an innovative operational framework termed Value-Driven Nano-Pedagogy. This model highlights a critical paradigm shift for future public engagement initiatives: grassroots technical development must move completely away from the isolated, "technical-only" approaches of the past. The qualitative evidence gathered throughout the project indicates that utilizing a local sacred space, such as the Darul Hikmah Mosque in Ponorogo, as a "Center of Religion" and an educational hub provides a vital layer of psychological safety, social cohesion, and moral focus that conventional, secular laboratory environments regularly lack. Consequently, grassroots professionalism is redefined as a holistic, humanistic competence where digital literacy, technical content management, and religious-ethical integrity actively intersect. The operational success of this intervention provides empirical validation that traditional religious centers can be effectively revitalized into strategic hubs for contemporary technical innovation, successfully bridging the historical gap between sacred communal spaces and the complex demands of twenty-first-century digital media management.

Based on these foundational outcomes, several strategic recommendations are put forward for subsequent community service programs and educational policymakers. First, regional higher education institutions and socio-religious networks should institutionalize the use of "Third Spaces," such as community mosques and village centers, as legitimate environments for technical literacy and professional development campaigns. Second, future empowerment models must move away from top-down, long-duration workshops, and instead adopt decentralized, mobile-first nano-learning configurations that respect the time constraints of community volunteers. Third, future interventions should expand the scope of this training by establishing dedicated, mosque-based digital propagation media labs across other regional branches in East Java. This expansion will ensure a sustainable, self-replicating cycle of grassroots innovation, producing a continuous generation of community leaders who are both technologically agile and morally grounded.

AUTHORS' CONTRIBUTION

☐ Author 1 **Arief Rahman Yusuf**: Conceptualization, Methodology, Software (Master Spreadsheet and Digital Nervous System development), Data Curation, Writing original draft, Project administration. As the project leader, he was responsible for leading the program planning, designing the digital dawah ethics training modules, and coordinating the overall evaluation and publication process.

☐ Author 2 **Angga Prasetyo**: Data Curation, Investigation (Field monitoring of startup sprint), Formal Analysis, Writing review & editing. He served as the technology and innovation facilitator, delivering training on video editing, graphic design, and social media strategies, while mentoring students during the field monitoring phase.

☐ Author 3 **Fauzan Masykur**: Formal Analysis (Financial and BEP validation), Resources, Visualization, Writing review & editing. He contributed to media literacy classes, supported the engagement analysis of social media contents, and assisted in preparing the final project report.

- ☐ Author 4 **Bambang Hermanto**: Supervision, Validation, Funding Acquisition, Resources. He contributed to the media literacy and digital ethics training sessions and assisted in the final reporting and pedagogical validation.
- ☐ Author 5 **Fifi Arisanti**: Validation (Pedagogical framework alignment), Mentoring, Data Collection. As a student team member, she mentored community cadres in dawah content production, guided them in using accessible editing tools (Canva and CapCut), and managed the field documentation.
- ☐ Author 6 **Razali bin Hassan**: Validation (Pedagogical framework alignment), Formal Analysis (International vocational standards), Supervision (Refinement of the GEN-V model), Writing review & editing.

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