

Hybrid Learning in Pesantren: Integrating Digital Pedagogy and Islamic Values to Enhance 21st-Century Competencies

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Keywords: Hybrid Learning; Education; Pesantren.	Abstract Education in Islamic boarding schools remains predominantly rooted in traditional models that demonstrate limited adaptability to contemporary technological innovations. At the same time, these institutions face the imperative to endure and evolve in order to fulfill their enduring educational mission. This study examines the innovation of hybrid learning methods in pesantren as a solution to the challenges faced by Islamic education in the digital era. The hybrid approach integrates traditional face-to-face instruction with structured, technology-based digital learning. This model offers increased flexibility, accessibility, and a more contextualized learning experience without relinquishing the Islamic values that define pesantren. Through a literature review and thematic analysis, the research reveals that the hybrid model enhances santri's twenty-first-century competencies—such as digital literacy, collaboration, and problem-solving—while maintaining their religious character. Additionally, the study proposes a holistic framework for the implementation and evaluation of hybrid learning, encompassing cognitive, affective, psychomotor, and digital-ethical dimensions. Effective and sustainable realization of this innovation demands synergistic collaboration among government authorities, pesantren administrators, and educators.
Kata kunci: Pembelajaran Hybrid; Pendidikan; Pesantren	Abstrak <i>Pendidikan di pesantren Islam masih didominasi oleh model tradisional yang menunjukkan keterbatasan dalam beradaptasi dengan inovasi teknologi kontemporer. Di sisi lain, lembaga-lembaga ini dihadapkan pada tuntutan untuk bertahan dan berkembang agar dapat memenuhi misi pendidikan yang berkelanjutan. Penelitian ini mengkaji inovasi metode pembelajaran hybrid di pondok pesantren sebagai solusi terhadap tantangan pendidikan Islam di era digital. Metode hybrid memadukan pendekatan tatap muka tradisional dengan pembelajaran berbasis teknologi digital yang terstruktur. Pendekatan ini menawarkan fleksibilitas, aksesibilitas, dan pengalaman belajar yang lebih kontekstual tanpa meninggalkan nilai-nilai keislaman yang menjadi karakter utama pesantren. Melalui pendekatan studi pustaka dan analisis tematik, penelitian ini menemukan bahwa model hybrid mampu meningkatkan kompetensi abad ke-21 santri, seperti literasi digital, kolaborasi, dan pemecahan masalah, sekaligus menjaga karakter religius. Penelitian ini juga menawarkan kerangka implementasi dan evaluasi hybrid learning yang holistik, yang mencakup aspek kognitif, afektif, psikomotorik, dan etika digital. Diperlukan sinergi antara pemerintah, pengelola pesantren, dan pendidik untuk mewujudkan inovasi ini secara efektif dan berkelanjutan</i>
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INTRODUCTION

Hybrid learning is an innovative approach that integrates traditional face-to-face instruction with technology-enhanced digital learning in a cohesive manner (Mishra, Gupta, & Shree, 2020). This method offers both flexibility and effectiveness in the educational process, enabling santri to engage in more interactive, collaborative, and adaptable learning experiences that reflect contemporary developments. Within the pesantren context, hybrid learning represents a strategic solution to the challenges of Islamic education in the digital era, while preserving the religious values and local cultural heritage that form the foundation of pesantren life (Sukiman, Haningsih, & Rohmi, 2022).

Pesantren play a pivotal role in shaping the character and intellect of the Muslim community. Yet, in the face of rapid technological progress and globalization, they must find ways to incorporate digital tools without compromising their traditional essence. Limited infrastructure and gaps in digital literacy pose significant obstacles that can only be overcome through thoughtful pedagogical innovation—such as adopting a hybrid model that leverages the strengths of both conventional and digital learning environments (Firmansah, Jaya, Agustin, & Dewi, 2023).

Research by Mu'amalah has demonstrated that hybrid learning can boost student motivation and expand access to digital resources within pesantren (Mu'amalah, 2024). Similarly, Grahani & Priambudi (2024) emphasized the importance of nurturing 21st-century skills through hybrid methods but did not explicitly address digital ethics (Dennis & Harrison, 2021). Implementing hybrid learning in pesantren improves both the quality and accessibility of education, while simultaneously preparing santri to master critical 21st-century competencies such as creativity, problem-solving, and digital literacy (Ridho & Damairi, 2024).

The success of a hybrid model depends on adequate technological infrastructure and the capacity-building of educators to effectively utilize digital media. Additionally, pesantren must formulate prudent policies governing the use of electronic devices to maintain discipline and uphold religious values (Hanafi et al., 2021). By adopting hybrid learning, pesantren can reinforce their role as adaptive and innovative Islamic educational institutions while safeguarding their spiritual and cultural identity (Arif, 2022).

These prior studies examined implementation and general impacts, without developing a holistic, context-sensitive evaluation framework. So, the present research distinguishes itself by proposing a comprehensive evaluation framework for hybrid learning that not only measures cognitive and psychomotor outcomes but also incorporates affective dimensions and digital ethics—elements that are highly relevant to the pesantren setting. This framework is designed to meet the real needs of pesantren, striking a balance between technological modernization and the preservation of religious values and local culture in the digital age. In doing so, this study makes a significant contribution to the development of an effective, sustainable hybrid learning model tailored to traditional Islamic education.

RESEARCH METHOD

This study employs a literature-review approach to examine innovations in hybrid learning methods within pesantren in the digital era. This strategy was chosen because it allows the researcher to identify, evaluate, and synthesize a wide range of concepts, theories, and empirical findings without conducting direct field observations (Abdurrahman, 2024).

Data were gathered through a systematic review of written sources, including books, peer-reviewed journal articles, research reports, and educational policy documents relating to hybrid-learning innovation and digitalization in pesantren. Literature searches were conducted in leading academic databases—such as Google Scholar, ScienceDirect, and nationally indexed Sinta portals—with inclusion criteria limited to publications from the past five years and high topical relevance (Subagiya, 2023).

The data analysis was conducted through a rigorous, qualitative thematic-analysis process in which researchers first engaged in data reduction by distilling and summarizing the most salient information from each source, thereby creating a manageable corpus for deeper examination. Next, through systematic data coding, we examined this distilled material to identify and label units of meaning that spoke to the study’s central questions, ensuring that every nuance of santri and educator experiences was honored. Finally, we undertook code aggregation, in which related codes were clustered into coherent subthemes and then synthesized into overarching themes, all of which were captured in a comprehensive thematic-analysis table to guide our interpretation and illuminate the complex interplay of values, practices, and perceptions within the pesantren community (Abdurrahman, 2024).

Table 1. Thematic Analysis of Hybrid Learning in Pesantren

Main Theme	Sub-Theme	Brief Description	References
Hybrid Implementation	Face-to-Face and Digital Integration	Incorporation of traditional and digital methods in pesantren	(Mustofa, Mas’ud, & Elizabeth, 2023a; Nikmatullah, Wahyudin, Tarihoran, & Fauzi, 2023)
Technology Infrastructure	Availability and Management	Availability of devices and networks that support hybrid	(Rosyidah, 2024)
Digital Literacy	Teacher and Student Training	Enhanced digital capabilities for hybrid optimization	(Murdianto, 2021; Mutammam et al., 2024)
Digital Ethics	Wise Use of Technology	Policy and supervision of the use of electronic devices	(Abidin, 2020; Ma’ruf et al., 2024)
Project-Based Learning	Collaboration and Creativity	Students work in groups using technology for research and digital presentations	(Arifah, Bahtiar, & Robby, 2024; Sutrisno & Nasucha, 2022)
Learning Evaluation	Cognitive, Affective, Psychomotor Assessment	A thorough evaluation that measures aspects of knowledge, attitudes, and skills	(Rizal, Hafidhuddin, Mujahidin, & Bahruddin, 2021; Tsani, 2023a)

This study advances a hybrid learning model for pesantren that harmoniously weaves together time-honored and contemporary pedagogies: at its core remains traditional face-to-face instruction—engaging santri in the study of Kitāb Kuning, heartfelt sermons, rote memorization, and spirited scholarly dialogue, thereby anchoring learners in the rich tapestry of pesantren religious values and communal

culture. Complementing this, guided digital learning introduces supervised multimedia resources—interactive videos, modular e-learning units, and curated online coursework—always under the vigilant oversight of educators to preserve discipline and uphold spiritual ethos. Integral to this approach is a comprehensive digital literacy curriculum, designed to equip both teachers and santri with the technical fluency and ethical discernment required to navigate and contribute to today's digital landscape. Finally, a clear policy framework governs the responsible use of devices and internet access, safeguarding the sanctity of the learning environment and reinforcing the pesantren's commitment to moral and intellectual formation.

This model is designed to balance tradition and modernization while elevating the quality and relevance of pesantren education in the digital era (Abdurrahman, 2024; Subagiya, 2023). By employing a literature-review methodology underpinned by structured thematic analysis and this hybrid implementation framework, the study offers a rich conceptual and theoretical understanding of hybrid learning innovation as a strategic solution to the challenges facing Islamic education today.

RESULT AND DISCUSSION

Hybrid learning represents an innovative pedagogical approach that blends conventional face-to-face instruction with structured, technology-mediated digital learning. This model not only enhances santri cognitive skills but also reinforces the spiritual and religious character distinctive to pesantren.

Theoretical Foundations and Pedagogical Rationale for Hybrid Learning in Pesantren

The contemporary Indonesian pesantren (Islamic boarding schools) occupy a unique pedagogical space that bridges centuries-old religious traditions with the exigencies of modern education. To chart a responsible path toward hybrid learning, it is essential first to anchor such innovation in robust theoretical underpinnings—both from Islamic educational philosophy and from established learning sciences. This subsection explores the confluence of Islamic pedagogical tenets, constructivist learning theory, and technology-enhanced learning frameworks and demonstrates how these conceptual streams coalesce into a coherent rationale for hybrid methods in pesantren contexts.

At the heart of pesantren education is the principle of *taqlīd wa taḥqīq*—the balance between faithfully transmitting inherited religious knowledge and encouraging critical inquiry. Classical pesantren curricula emphasize *kitābah* (writing), *qirā'ah* (reading), and *muhādarah* (oral discourse), fostering deep engagement with primary Islamic texts through face-to-face mentorship (Hanif, Hamid, Agusman, & Nurhaidah, 2023). This interactive, dialogic model resonates with social constructivism, whereby knowledge emerges through guided negotiation between teacher (*kyai*) and student (*santri*).

Moreover, the concept of *tarbiyah* (holistic cultivation) in Islamic pedagogy enjoins educators to nurture intellectual, moral, and spiritual dimensions simultaneously. Knowledge in an Islamic worldview is inseparable from ethical formation; hence, any pedagogical innovation must preserve this integrative spirit (Muhsan & Haris, 2022). Hybrid learning—when thoughtfully designed—can uphold *tarbiyah* by embedding digital tools within a framework that foregrounds character development, reflective practice, and communal worship, rather than reducing education to mere technical proficiency.

Constructivist paradigms posit that learners build understanding through active engagement, reflection, and collaboration. Vygotsky's Zone of Proximal Development (ZPD) highlights the critical role of social interaction in scaffolding learners beyond their

current capacities (Smagorinsky, 2018). In pesantren, this scaffolding traditionally occurs through one-on-one tutelage and small-group *halaqah* (study circles). By integrating synchronous online seminars and asynchronous discussion forums, hybrid learning can replicate and even enrich these intimate spaces, offering multi-modal opportunities for collaborative exegesis of religious texts.

Beyond individual scaffolding, Bandura's social learning theory underscores the power of modelling (Vancouver, 2012). Digital platforms enable students to interact not only with local mentors but also with external scholars and global peers, observing diverse interpretive approaches. This broadened social milieu can strengthen santri's capacity to navigate pluralistic perspectives—a vital competency in the twenty-first century.

Several learning sciences frameworks, such as the Community of Inquiry (CoI) model, provide actionable guidance for hybrid course design. CoI identifies three essential presences—cognitive, social, and teaching—that collectively foster deep and meaningful learning (Shea & Swan, 2022). In a pesantren hybrid model, cognitive presence can be supported through curated digital resources (e-books of classical texts, interactive quizzes on hadith classification), while social presence emerges from live virtual *syawir* (consultations) and peer-moderated study groups. Teaching presence, meanwhile, is sustained through regular online mentoring sessions and feedback loops.

Similarly, the SAMR model (Substitution, Augmentation, Modification, Redefinition) assists educators in evaluating how technology transforms educational tasks (Hamilton, Rosenberg, & Akcaoglu, 2016). At the Substitution level, digital slides might simply replace chalkboard notes. Yet at the Redefinition level, pesantren santri can collaborate on transnational translation projects, annotate manuscripts in shared virtual environments, and present their insights through multimedia portfolios. Such redefined tasks not only enhance engagement but also cultivate meta-cognitive awareness, empowering santri to become autonomous learners.

International frameworks, such as the Partnership for 21st Century Learning, identify key competencies—critical thinking, collaboration, creativity, and digital literacy (Caena & Redecker, 2019)—that align closely with Islamic aims of *'aql* (intellect) and *hikmah* (wisdom). Hybrid learning environments can integrate online simulations of ethical dilemmas, peer assessments of community service initiatives, and reflective journaling apps that prompt santri to relate digital experiences back to Islamic ethical principles. By doing so, the pesantren hybrid model transcends mere knowledge transmission, nurturing a generation of Muslims who are both deeply rooted in tradition and adept at navigating global challenges.

Despite the theoretical promise of hybrid learning, tensions may arise—particularly regarding the risk of secularization or diminishing the sanctity of sacred texts through over-reliance on digital media. To mitigate these risks, technopedagogical interventions (Edisherashvili, Saks, Pedaste, & Leijen, 2022) should be governed by a clear Islamic digital-ethical code: ensuring that online content is *halal*, utilizing platforms that protect privacy and data integrity, and training educators to moderate forums with sensitivity to religious decorum. This principled approach ensures that hybrid innovation remains consonant with pesantren's ethos of reverence and communal integrity.

The theoretical foundations for hybrid learning in pesantren draw upon the harmonious integration of Islamic pedagogical values, constructivist learning theories, and technology-enhanced learning frameworks. By aligning these streams, a robust

pedagogical rationale emerges – one that honors the pesantren’s religious mission while equipping santri with indispensable global competencies.

Implementation Strategies and Stakeholder Collaboration for Sustainable Hybrid Learning

Transitioning from theory to practice requires meticulous planning and coordinated action among multiple stakeholders—*kyai* (pesantren principals), educators, government bodies, technology providers, and the santri themselves. This subsection articulates a holistic strategy for implementing hybrid learning within pesantren, emphasizing collaborative governance, infrastructure development, curriculum integration, and capacity building.

A clear policy framework at national and local levels is critical to legitimize hybrid learning in pesantren. The Indonesian Ministry of Religious Affairs can issue guidelines that define accreditation criteria for digital components, quality assurance for e-learning platforms, and funding mechanisms for infrastructure upgrades. Pesantren administrators should establish internal steering committees to liaise with government offices, ensuring compliance with regulations while advocating for contextual flexibility. Institutional collaboration fosters mutual accountability and unlocks access to government grants and training programs (Mustofa, Mas’ud, & Elizabeth, 2023b).

Effective hybrid learning demands reliable hardware (computers, tablets), stable internet connectivity, and user-friendly learning management systems (LMS). In many rural pesantren, infrastructural deficits pose formidable challenges (Yuli, Maharika, & Eckardt, 2023). A thoughtfully sequenced implementation can help overcome infrastructure and resource limitations common in pesantren settings. Initially, a pilot cohort comprising a carefully chosen mix of santri and educators can assess the feasibility of the hybrid approach by utilizing portable Wi-Fi hotspots and shared devices.

E-learning platforms allow for self-directed study outside scheduled classes (Onah, Pang, Sinclair, & Uhomoihi, 2021). Through a controlled web portal, pesantren can offer supplementary materials, practice exercises, and topic-focused videos. While personal devices may be restricted, shared computer facilities—under staff supervision—provide safe, productive access to online resources, consistent with pesantren’s rigorous oversight.

One hallmark of hybrid learning is its flexibility in time and place (Azouri & Karam, 2023). Santri may engage with materials synchronously or asynchronously via secure digital platforms, thus extending learning beyond formal classroom hours. Supervised computer labs ensure that technology use remains aligned with pesantren values and discipline (Sahri & Aziz, 2023).

Building on insights from this pilot, dedicated learning hubs—digital laboratories housed within pesantren compounds and powered by solar-charging stations—can ensure reliable access even in off-grid environments. Finally, the adoption of offline-capable learning management system applications, which synchronize instructional materials whenever connectivity permits, offers a pragmatic solution to bridge digital divides and sustain continuous learning. Collectively, this phased rollout not only addresses technical constraints but also fosters a more inclusive and resilient educational ecosystem (Motz, Porta, & Reategui, 2023).

Hybrid learning should not be an add-on; rather, it must be woven into the fabric of the pesantren curriculum. Instructional designers and *kyai* should co-develop blended lesson plans that specify which segments of *muhādarah* occur face-to-face and which

components leverage digital modules. For instance, recitation practice might transpire in physical *halaqah* circles, whereas rote memorization exercises can be delivered through spaced-repetition apps. Synchronous virtual sessions can enhance synergy between remote guest lecturers and local teachers, diversifying perspectives for santri.

A hybrid curriculum combines in-person activities—such as *pengajian* of *kitab kuning*, memorization sessions, and guided discussions—with interactive digital media like instructional videos, multimedia presentations, and online modules. This integration broadens access to diverse learning resources and heightens learner motivation by delivering contextualized, engaging content. Crucially, it preserves traditional elements—such as religious study circles—while equipping santri with essential digital literacy (Fransisca, 2024).

To bridge the gap between educational modernization and pesantren heritage, several institutions have pioneered hybrid curricula. For instance, Aqobah International School in Jombang has merged the national curriculum, pesantren teachings, and international frameworks (e.g., Cambridge) to deliver a holistic program that nurtures both character and academic competence (Efendi & Bueraheng, 2023).

To maintain coherence, learning outcomes must be articulated for both modalities, with rubrics that assess religious comprehension, digital engagement, and ethical conduct. Embedding formative assessments—quizzes, peer reviews, reflective blogs—supports continuous feedback and adaptive teaching (Nasucha, Khozin, & Thoifah, 2023). Hybrid pedagogy thus becomes a dynamic interplay of offline and online experiences centered on clearly defined competencies.

The effectiveness of any pedagogical innovation ultimately depends on the readiness and confidence of its educators, making comprehensive professional development indispensable for enabling kyai and teachers to master both educational technologies and hybrid instructional methodologies. Initially, a cadre of master trainers—selected for their demonstrated excellence—participates in intensive workshops addressing blended-learning design, digital ethics, and platform administration. These master trainers subsequently provide on-site coaching and model best practices for local teachers through a peer-mentoring framework, thereby ensuring that instructional methods are contextualized and sustainable (Abrami, Poulsen, & Chambers, 2004).

In a hybrid environment, teachers evolve from sole content deliverers to facilitators who guide santri in applying knowledge across diverse media. Educators must creatively design activities that fuse traditional instruction with digital tools, leveraging technology to elevate teaching quality and maintain student engagement. While hybrid curricula hold immense promise for enhancing educational quality through digital innovation, their success hinges on the readiness of faculty and students to adapt, as well as careful integration to safeguard core pesantren values. A structured, sustainable implementation strategy is essential to maximize positive impact and foster a generation of santri who are both technologically proficient and deeply rooted in Islamic tradition.

Concurrently, nurturing vibrant communities of practice via online forums allows pesantren educators to exchange lesson plans, collaboratively resolve technological challenges, and engage in reflective dialogue about their teaching experiences. By cultivating a culture of continuous learning and internal expertise, pesantren reduce their dependence on external consultants and lay the groundwork for enduring, self-sustaining innovation.

Securing the support of students, parents, and broader community actors is vital. Awareness campaigns can showcase early successes of hybrid learning—improved digital literacy, enhanced academic performance, and positive feedback from pilot participants (Cooper & and Mena, 2005). Engaging parents through digital town halls and involving local religious councils in advisory roles helps to allay concerns about technology undermining religious values. When stakeholders witness tangible benefits—such as santri leading online community service initiatives—they are more likely to endorse and champion the innovation.

Any complex change process is susceptible to setbacks. A robust monitoring and evaluation (M&E) system should track key performance indicators: attendance rates for both online and offline sessions, platform usage metrics, student satisfaction surveys, and competency assessments (Chapman, Goodman, Jawitz, & Deacon, 2016). Regular M&E reports enable swift remediation—be it technical troubleshooting, pedagogical refinement, or addressing equity gaps. By institutionalizing feedback loops, pesantren can evolve their hybrid models iteratively, avoiding one-size-fits-all pitfalls and maximizing impact.

Despite deeper digital integration, traditional methods—such as rote memorization, lectures, and *sorogan*—remain central. Digital tools serve as enriching supplements: educational videos and interactive modules enhance comprehension and retention without displacing cherished religious practices (Widodo, Maragustam, & Supriyanto, 2023).

Based on this explanation, the author can categorize the implementation and collaboration strategies for Sustainable Hybrid Learning in pesantren:

Table 2. Construction of Sustainable Hybrid Learning in Pesantren

Implementation Aspect	Key Challenges	Strategic Actions	Primary Stakeholders
Policy & Governance	Ambiguous accreditation criteria; limited regulatory support	a. Advocate for clear national and local hybrid learning guidelines b. Form internal steering committees to liaise with Ministry of Religious Affairs	Kyai, Pesantren Administrators, Ministry of Religious Affairs
Infrastructure Development	Unreliable internet; scarce devices in rural pesantren	a. Pilot portable Wi Fi hotspots and shared tablets b. Establish solar powered digital learning hubs	Technology Providers, Local Government, Pesantren IT Coordinators
Curriculum Integration	Balancing traditional halaqah circles with digital modules	a. Co design blended lesson plans with kyai and instructional designers b. Embed flipped classroom elements for rote memorization via spaced repetition apps	Kyai, Educators, Curriculum Designers
Capacity Building	Low digital literacy among educators; resistance to new methodologies	a. Train master trainer cadre in blended learning design and digital ethics b. Implement peer mentoring programs	Master Trainers, Ustadz/Teachers, Educational NGOs
Community & Stakeholder Engagement	Parent and community concerns about technology undermining values	a. Organize digital town halls showcasing pilot successes	Parents, Local Religious Councils, Santri

		b.	Involve local religious councils in advisory roles	
Monitoring & Evaluation (M&E)	Insufficient data on hybrid learning effectiveness; delayed feedback loops	a.	Track KPIs (attendance, platform usage, satisfaction)	M&E Teams, Educators, Pesantren Leadership
		b.	Produce regular M&E reports to inform iterative improvements	
Sustaining Tradition & Culture	Risk of digital tools displacing cherished religious practices	a.	Preserve core sorogan and memorization sessions in person	Kyai, Santri, Educational Content Developers
		b.	Use digital media only as enriching supplements (videos, interactive modules)	
Communities of Practice	Over reliance on external consultants; fragmented support networks	a.	Create online educator forums for lesson plan sharing and technical troubleshooting	Educators, IT Specialists, Educational NGOs
		b.	Encourage reflective peer dialogue	

Table 2 above synthesizes a human-centered strategy for rolling out and sustaining hybrid learning in pesantren, balancing technological innovation with deep respect for Islamic educational traditions. Through strategic governance, infrastructure planning, curriculum integration, capacity building, and community engagement, pesantren can implement hybrid learning in a manner that is both contextually sensitive and sustainably governed. This collaborative approach ensures that innovation complements, rather than compromises, the pesantren’s enduring mission of holistic Islamic education.

Evaluation Framework: Cognitive, Affective, Psychomotor, and Digital-Ethical Dimensions

A nuanced approach to cognitive assessment is vital for understanding how santri assimilate religious texts, legal reasoning, and theological concepts, and while traditional examinations retain their value, the integration of digital analytics can yield richer insights (Mala & Hunaida, 2023). Adaptive quizzing platforms, which tailor item-response questions to individual performance, offer detailed data on each student’s mastery, whereas concept-mapping software empowers learners to visually articulate the interrelationships among Qur’anic verses, Prophetic traditions, and classical juristic interpretations, fostering holistic comprehension. Moreover, systematic discourse analysis of recorded synchronous discussions can reveal the presence of higher-order thinking – analysis, synthesis, and evaluation – thus providing both quantitative metrics and qualitative depth. The resulting assessment framework honors the authenticity of pesantren pedagogical traditions while harnessing contemporary affordances to support each santri’s intellectual growth.

A comprehensive approach to evaluating the affective domain – encompassing spiritual maturity and ethical comportment – is essential to tarbiyah, and hybrid modalities offer innovative means to honor this deeply personal growth. By maintaining reflective e-portfolios, santri can chronicle their weekly lessons, community service experiences, and inner spiritual reflections, enabling educators to discern developments in sincerity (*ikhlas*), gratitude (*shukr*), and communal empathy.

Structured online peer-feedback mechanisms further cultivate a supportive moral community by encouraging santri to acknowledge and affirm virtuous conduct in one another. Additionally, digital self-assessment rubrics invite learners to introspect on qualities such as patience (*ṣabr*), humility (*tawāḍu'*), and social responsibility, rendering affective progress both visible and actionable. Together, these tools preserve the intimate nature of spiritual formation while furnishing educators with systematic evidence to inform and refine *ta'lim* interventions (Tsani, 2023b).

Pesantren have long nurtured essential psychomotor competencies—such as precise Qur'anic recitation (*tajwīd*), ritual prayer movements (*rak'āt*), and mastery of calligraphic art—through disciplined repetition and embodied guidance (Mujahid, 2021). Augmenting these time-honored practices with hybrid evaluation techniques can deepen learners' engagement and accelerate skill acquisition. For instance, santri can submit video recordings of their recitations or ritual postures, enabling educators to provide timestamped, granular feedback on articulation, rhythm, and posture. In calligraphy instruction, digital drawing tablets equipped with stylus-sensing software offer real-time analysis of pressure, angle, and stroke consistency, guiding students toward greater precision.

Hybrid models encourage project-based activities wherein santri collaborate on assignments integrating religious and secular subjects. Technology facilitates research, data management, and presentation—such as creating explanatory videos or digital slides—thereby fostering teamwork, creativity, and practical application of knowledge alongside religious understanding (Arifah et al., 2024).

Complementary gamified drills in mobile applications deliver timed challenges for memorizing prayer sequences or verses, fostering regular practice through motivational incentives. When integrated with traditional, in-person mentorship, these digital innovations reinforce the visceral embodiment of Islamic praxis while honoring the pedagogical integrity of pesantren (Palange, 2022).

A defining strength of the hybrid model in pesantren lies in its commitment to cultivating digital-ethical literacy, whereby santri learn to engage online in harmony with Islamic principles. Instructors conduct systematic audits of learners' participation within digital forums, attending to the presence of respectful dialogue, the avoidance of *ghibah* (backbiting), and the protection of privacy. Through interactive, scenario-based assessments—such as confronting extremist propaganda or navigating questions of digital intellectual property—santri are invited to apply Islamic ethical frameworks to real-world dilemmas (Darmini, 2021).

Complementing these measures, reflective analyses of personal digital footprints encourage students to examine their own social media behaviors against prompts of authenticity, benevolence, and accountability. By weaving these evaluative practices into the hybrid curriculum, pesantren safeguard technological fluency with moral maturity, ensuring that engagement in online spaces remains both responsible and deeply rooted in Islamic values.

To synthesize insights across these four dimensions, the framework employs a composite scorecard that balances quantitative metrics (quiz scores, platform engagement) with qualitative indicators (portfolio depth, peer feedback quality) (Varouchas & and Sánchez-Alonso, 2018). Periodic holistic reports—shared with santri, educators, and parents—foster transparency and collective ownership of learning trajectories. Such integrative reporting aligns with *shūrā* (consultative governance) principles, maintaining communal oversight of both educational outcomes and ethical formation.

Digital integration enables educators and students to tap into up-to-date resources—academic articles, educational videos, infographics, and online simulations—to demystify complex concepts (Herro & and Jacques, 2018). Santri can also explore otherwise inaccessible literature, deepening their insight and broadening their intellectual horizons.

Data generated through this evaluation framework serve not only accountability but also ongoing research. Longitudinal studies can examine correlations between digital-ethical maturity and academic achievement, or compare psychomotor gains across traditional versus hybrid cohorts. Findings can inform iterative refinements of curriculum design, platform selection, and pedagogical strategies—creating a virtuous cycle of evidence-informed innovation. Implementation respects pesantren policies that limit personal gadget use. Institutions may provide monitored computer labs, projectors for group presentations, and restricted internet access—to educational sites only—ensuring that technology enriches learning without undermining discipline or values.

Table 3. Evaluation Framework of Hybrid Learning in Pesantren

Evaluation Domain	Assessment Methods	Digital Hybrid Tools	Key Indicators
Cognitive	- Adaptive quizzing tailored to individual mastery- Concept mapping of scriptural and juristic interrelationships- Discourse analysis of recorded discussions	a. Item response platforms with analytics dashboards b. Collaborative concept map software	a. Mastery levels per topic b. Depth of conceptual connections c. Frequency of higher order thinking
Affective	- Reflective e portfolios of spiritual reflections and community service- Online peer feedback on ethical conduct- Self assessment rubrics for virtues	a. Secure portfolio portals- Peer review modules b. Interactive self rating tools	a. Growth in sincerity (ikhlaṣ), gratitude (ṣuḡr), and empathy b. Quality of peer affirmations c. Self rated virtue scores
Psychomotor	- Video submissions of recitation (tajwīd) and prayer postures (rak'āt)- Digital calligraphy practice with stroke analysis- Gamified drills for memorization	a. Timestamped video feedback platforms b. Stylus enabled drawing tablets- Mobile quiz apps with incentives	a. Accuracy of recitation and movement b. Consistency of calligraphic strokes c. Drill completion rates
Digital Ethical	- Audits of online forum participation for respectful dialogue- Scenario based assessments of ethical dilemmas- Reflective analyses of personal digital footprints	a. Moderated discussion boards with analytics b. Interactive scenario simulators- Digital footprint review tools	a. Incidence of respectful engagement b. Decision quality in simulated dilemmas c. Self reported accountability

Table 3 articulates an integrative framework that honors pesantren pedagogies while leveraging digital affordances to assess and support santri across cognitive, affective, psychomotor, and ethical dimensions. A multidimensional evaluation framework—encompassing cognitive, affective, psychomotor, and digital-ethical domains—provides a rigorous yet contextually resonant mechanism to assess hybrid learning in pesantren. By attending to the full spectrum of Islamic educational objectives, this approach ensures that technological integration deepens, rather than dilutes, the pesantren’s mission of holistic human development.

CONCLUSION

Hybrid learning offers a powerful means of preserving pesantren identity and values while equipping santri with critical twenty-first-century skills such as digital literacy, collaboration, and creativity. By integrating conventional face-to-face instruction with guided digital media, supported by deliberate infrastructure planning, teacher professional development, and clear institutional policies, hybrid models can overcome challenges of limited connectivity and uneven digital proficiency.

Academically, this work strengthens the case for hybrid learning in pesantren by not only outlining practical implementation strategies but also proposing a holistic evaluation framework that spans cognitive, affective, psychomotor, and digital-ethical dimensions—thereby providing scholars and practitioners with a rigorous tool for assessing educational impact. Nonetheless, this study is constrained by its reliance on literature review rather than empirical field data; the next crucial step is to undertake in-situ, mixed-methods research within diverse pesantren contexts to validate and refine both the implementation approaches and the evaluation framework. Such future inquiry will be essential for translating hybrid-learning ideals into sustainable, contextually grounded practice.

REFERENCES

- Abdurrahman. (2024). Metode Penelitian Kepustakaan dalam Pendidikan Islam. *Adabuna: Jurnal Pendidikan Dan Pemikiran*, 3(2), 102–113. <https://doi.org/10.38073/adabuna.v3i2.1563>
- Abidin, Z. (2020). Educational Management of Pesantren in Digital Era 4.0. *Jurnal Pendidikan Agama Islam*, 17(2), 203–216. <https://doi.org/10.14421/jpai.2020.172-07>
- Abrami, P. C., Poulsen, C., & Chambers, B. (2004). Teacher motivation to implement an educational innovation: Factors differentiating users and non-users of cooperative learning. *Educational Psychology*, 24(2), 201–216. <https://doi.org/10.1080/0144341032000160146>
- Arif, M. (2022). Character Education Innovation in Forming Millennial Generation Personality. *Didaktika Religia*, 10(1), 75–99. <https://doi.org/10.30762/didaktika.v10i1.4>
- Arifah, F., Bahtiar, I. R., & Robby, D. K. (2024, May 2). *The Effect of the Project-Based Learning Model on Interest in Learning Arabic Language*. 199–211. Atlantis Press. https://doi.org/10.2991/978-2-38476-240-8_18
- Azouri, M., & Karam, J. (2023). From In-Person to Hybrid Learning Mode. In N. Azoury & G. Yahchouchi (Eds.), *Governance in Higher Education: Global Reform and Trends in the MENA Region* (pp. 61–88). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-40586-0_4

- Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu). *European Journal of Education, 54*(3), 356–369. <https://doi.org/10.1111/ejed.12345>
- Chapman, S. A., Goodman, S., Jawitz, J., & Deacon, A. (2016). A strategy for monitoring and evaluating massive open online courses. *Evaluation and Program Planning, 57*, 55–63. <https://doi.org/10.1016/j.evalprogplan.2016.04.006>
- Cooper, C. R., Chavira, Gabriela, & Mena, D. D. (2005). From Pipelines to Partnerships: A Synthesis of Research On How Diverse Families, Schools, and Communities Support Children's Pathways Through School. *Journal of Education for Students Placed at Risk (JESPAR), 10*(4), 407–430. https://doi.org/10.1207/s15327671espr1004_4
- Darmini, A. M. M. (2021). *Internet and the public sphere in the Indonesian Islamic boarding schools (Pondok Pesantren): Power, piety, and the popular* (Phd, University of Warwick). University of Warwick. Retrieved from <http://webcat.warwick.ac.uk/record=b3755522>
- Dennis, M., & Harrison, T. (2021). Unique ethical challenges for the 21st century: Online technology and virtue education. *Journal of Moral Education, 50*(3), 251–266. <https://doi.org/10.1080/03057240.2020.1781071>
- Edisherashvili, N., Saks, K., Pedaste, M., & Leijen, Ä. (2022). Supporting Self-Regulated Learning in Distance Learning Contexts at Higher Education Level: Systematic Literature Review. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.792422>
- Efendi, A., & Bueraheng, I. (2023). International Islamic Boarding School Strategy for Realizing Superior Islamic Boarding School Management. *Cendekia: Jurnal Kependidikan Dan Kemasyarakatan, 21*(1), 80–92. <https://doi.org/10.21154/cendekia.v21i1.5943>
- Firmansah, M. L. H., Jaya, A. F., Agustin, N., & Dewi, M. W. K. (2023). Implementation of Hybrid Learning Models in Islamic Universities in Asian Countries. *Journal Emerging Technologies in Education, 1*(1), 59–68. <https://doi.org/10.55849/jete.v1i1.199>
- Fransisca, S. W. (2024). Integrasi Pembelajaran Abad 21 Dalam 4C (Communication, Creativity and Inovation, Collaboration, Critical Thinking) di Pondok Pesantren Sulamul Huda Siwalan. *Muaddib: Jurnal Pendidikan Agama Islam, 2*(02), 32–45.
- Hamilton, E. R., Rosenberg, J. M., & Akcaoglu, M. (2016). The Substitution Augmentation Modification Redefinition (SAMR) Model: A Critical Review and Suggestions for its Use. *TechTrends, 60*(5), 433–441. <https://doi.org/10.1007/s11528-016-0091-y>
- Hanafi, Y., Taufiq, A., Saefi, M., Ikhsan, M. A., Diyana, T. N., Thoriquttyas, T., & Anam, F. K. (2021). The new identity of Indonesian Islamic boarding schools in the “new normal”: The education leadership response to COVID-19. *Heliyon, 7*(3). <https://doi.org/10.1016/j.heliyon.2021.e06549>
- Hanif, M., Hamid, A., Agusman, A., & Nurhaidah, S. (2023). Integrated Dakwah Model: How Mosques, Pesantrens, and Campuses become Islamic Preaching Centers in Bogor. *Progresiva : Jurnal Pemikiran Dan Pendidikan Islam, 12*(01), 85–102. (Research Article). <https://doi.org/10.22219/progresiva.v12i01.27704>
- Herro, D., Quigley, Cassie, & Jacques, L. A. (2018). Examining technology integration in middle school STEAM units. *Technology, Pedagogy and Education, 27*(4), 485–498. <https://doi.org/10.1080/1475939X.2018.1514322>

- Mala, A., & Hunaida, W. L. (2023). Exploring the Role of Religious Moderation in Islamic Education: A Comprehensive Analysis of Its Unifying Potential and Practical Applications. *Jurnal Pendidikan Agama Islam (Journal of Islamic Education Studies)*, 11(2), 173–196. <https://doi.org/10.15642/jpai.2023.11.2.173-196>
- Ma'ruf, R. A., Darmanto, D., Haditia, M., Asroriah, F., Asy'arie, B. F., & Zuhairi, Z. (2024). Islamic Boarding Schools and Technology: Efforts to Overcome Social Changes in Santri Misuse of Gadgets. *AL-ISHLAH: Jurnal Pendidikan*, 16(2), 2472–2484. <https://doi.org/10.35445/alishlah.v16i2.5338>
- Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012. <https://doi.org/10.1016/j.ijedro.2020.100012>
- Motz, R., Porta, M., & Reategui, E. (2023). Building Resilient Educational Systems: The Power of Digital Technologies. In S. Berrezueta (Ed.), *Proceedings of the 18th Latin American Conference on Learning Technologies (LACLO 2023)* (pp. 370–383). Singapore: Springer Nature. https://doi.org/10.1007/978-981-99-7353-8_28
- Mu'amalah, H. (2024). Transforming Student Satisfaction in the Digital Era: A Study of the Effects of Hybrid Learning and Digital Literacy in Islamic Religious Education. *AL-ISHLAH: Jurnal Pendidikan*, 16(4), 4728–4736. <https://doi.org/10.35445/alishlah.v16i4.6143>
- Muhsan, M., & Haris, A. (2022). Multidisciplinary Approach in Islamic Religious Education: The Formation of a Holistic and Responsive Muslim Community to the Dynamics of Modern Life. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, 14(1), 597–612. <https://doi.org/10.37680/qalamuna.v14i1.4440>
- Mujahid, I. (2021). Islamic orthodoxy-based character education: Creating moderate Muslim in a modern pesantren in Indonesia. *Indonesian Journal of Islam and Muslim Societies*, 11(2), 185–212. <https://doi.org/10.18326/ijims.v11i2.185-212>
- Murdianto, M. (2021). Adaptation Strategies of Islamic Boarding Schools in Lombok in Facing the Digital Age. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, 3(1), 76–92. <https://doi.org/10.37680/scaffolding.v3i1.6300>
- Mustofa, M. Y., Mas'ud, A., & Elizabeth, M. Z. (2023a). Hybrid Pesantren in Indonesia; Analyzing the Transformation of Islamic Religious Education in the Digital Age | Al-Tadzkiyyah: Jurnal Pendidikan Islam. *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, 14(1), 79–104. <https://doi.org/10.24042/atjpi.v14i1.16928>
- Mustofa, M. Y., Mas'ud, A., & Elizabeth, M. Z. (2023b). *Hybrid Pesantren in Indonesia; Analyzing the Transformation of Islamic Religious Education in the Digital Age | Al-Tadzkiyyah: Jurnal Pendidikan Islam*. Retrieved from <https://ejournal.radenintan.ac.id/index.php/tadzkiyyah/article/view/16928>
- Mutammam, Anggraeni, D., Afroni, A., Sutrisno, Zubaidah, A., & Irfanullah, G. (2024). Adaptation and Transformation of Pesantren Education in Facing The Era of Muslim Society 5.0. *Nazhruna: Jurnal Pendidikan Islam*, 7(3), 705–726. <https://doi.org/10.31538/nzh.v7i3.114>
- Nasucha, M. R., Khozin, K., & Thoifah, I. (2023). Synergizing Islamic Religious Education and Scientific Learning in the 21st Century: A Systematic Review of Literature. *Jurnal Pendidikan Agama Islam (Journal of Islamic Education Studies)*, 11(1), 109–130. <https://doi.org/10.15642/jpai.2023.11.1.109-130>
- Nikmatullah, C., Wahyudin, W., Tarihoran, N., & Fauzi, A. (2023). Digital Pesantren: Revitalization of the Islamic Education System in the Disruptive Era. *Al-Izzah: Jurnal Hasil-Hasil Penelitian*, 1–14. <https://doi.org/10.31332/ai.v0i0.5880>

- Onah, D. F. O., Pang, E. L. L., Sinclair, J. E., & Uhomoibhi, J. (2021). An innovative MOOC platform: The implications of self-directed learning abilities to improve motivation in learning and to support self-regulation. *The International Journal of Information and Learning Technology*, 38(3), 283–298. (world). <https://doi.org/10.1108/IJILT-03-2020-0040>
- Palange, A. (2022). Islamic education and activism in theory and practice: The case of two online e-learning institutes (Doctoral, UCL (University College London); pp. 1–349). UCL (University College London). Retrieved from <https://discovery.ucl.ac.uk/id/eprint/10148009/>
- Ridho, A., & Damairi, M. U. (2024). Resilience of Pesantren-Based Madrasahs in Yasinat, Jember: Adjusting to Educational Developments. *TOFEDU: The Future of Education Journal*, 3(5). <https://doi.org/10.61445/tofedu.v3i5.421>
- Rizal, S., Hafidhuddin, D., Mujahidin, E., & Bahruddin, E. (2021). Education Model of Tasamuh Attitude in Pesantren (Analysis of The Concept and Implementation of Tasamuh Attitude at Pesantren Institute in Bogor Regency). *Turkish Journal of Computer and Mathematics Education*, 12(6), 5009–5021.
- Rosyidah, I. M. (2024). Inovasi Hybrid Kurikulum Sekolah Dan Pondok Pesantren Pada Era Teknologi Informasi. *Jurnal Pendidikan Indonesia*, 5(9), 665–674. <https://doi.org/10.59141/japendi.v5i9.3550>
- Sahri, & Aziz, S. (2023). The Role of Pesantren as Traditional Islamic Education Institutions in the Digital Era. *Al Hikmah: Jurnal Studi Keislaman*, 13(02), 98–112. <https://doi.org/10.36835/hjsk.v13i02.4061>
- Shea, P., Richardson, Jennifer, & Swan, K. (2022). Building bridges to advance the Community of Inquiry framework for online learning. *Educational Psychologist*, 57(3), 148–161. <https://doi.org/10.1080/00461520.2022.2089989>
- Smagorinsky, P. (2018). Deconflating the ZPD and instructional scaffolding: Retranslating and reconceiving the zone of proximal development as the zone of next development. *Learning, Culture and Social Interaction*, 16, 70–75. <https://doi.org/10.1016/j.lcsi.2017.10.009>
- Subagiya, B. (2023). Eksplorasi penelitian Pendidikan Agama Islam melalui kajian literatur: Pemahaman konseptual dan aplikasi praktis. *Ta'dibuna: Jurnal Pendidikan Islam*, 12(3), 304–318. <https://doi.org/10.32832/tadibuna.v12i3.14113>
- Sukiman, Haningsih, S., & Rohmi, P. (2022). The Pattern of Hybrid Learning to Maintain Learning Effectiveness at the Higher Education Level Post-COVID-19 Pandemic. *European Journal of Educational Research*, 11(1), 243–257.
- Sutrisno, S., & Nasucha, J. A. (2022). Islamic Religious Education Project-Based Learning Model to Improve Student Creativity. *At-Tadzkir: Islamic Education Journal*, 1(1), 13–22. <https://doi.org/10.59373/attadzkir.v1i1.3>
- Tsani, I. (2023a). Affective Evaluation Model for Islamic Religious Education: Development and Application in Madrasah Aliyah and Pondok Pesantren. *Didaktika Religia*, 11(2), 295–317. <https://doi.org/10.30762/didaktika.v11i2.3382>
- Tsani, I. (2023b). Evaluation Model of the Affective Aspect for Religion Education in Madrasah Aliyah and Pondok Pesantren. *Didaktika Religia*, 11(2), 41–60. <https://doi.org/10.30762/didaktika.v11i2.3382>
- Vancouver, J. B. (2012). Rhetorical Reckoning: A Response to Bandura. *Journal of Management*, 38(2), 465–474. <https://doi.org/10.1177/0149206311435951>
- Varouchas, E., Sicilia, Miguel-Angel, & Sánchez-Alonso, S. (2018). Towards an integrated learning analytics framework for quality perceptions in higher education: A 3-tier content, process, engagement model for key performance

- indicators. *Behaviour & Information Technology*, 37(10-11), 1129-1141. <https://doi.org/10.1080/0144929X.2018.1495765>
- Widodo, M., Maragustam, M., & Supriyanto, S. (2023). Kitab Kuning at the Salafiyah Pesantren in Indonesia: The Dynamics of Online Learning. *AL-ISHLAH: Jurnal Pendidikan*, 15(3), 3005-3016. <https://doi.org/10.35445/alishlah.v15i3.2841>
- Yuli, N. G., Maharika, I. F., & Eckardt, F. (2023). THE ARCHITECTURE OF PESANTREN: CURRENT ISSUES, CHALLENGES AND PROSPECT FOR DESIGN FRAMEWORK. | EBSCOhost. *Journal of Islamic Architecture*, 17(4), 626-638. <https://doi.org/10.18860/jia.v7i4.21006>