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Mentoring The Implementation of Learning Management System in Realizing Islamic Smart School

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ABSTRACT

This study aims to explore the process and impact of mentoring the implementation of a Learning Management System (LMS) in realizing the Islamic Smart School model in junior high schools. The digital transformation of education in rural Indonesia faces significant barriers, including limited teacher digital literacy and a lack of culturally and religiously contextualized learning materials. The study used the Asset-Based Community Development (ABCD) framework to assess school resources, followed by capacity-building workshops, mentoring, and co-development of digital content integrating Islamic values. The results showed a significant increase in teacher confidence and proficiency in using the LMS platform, with LMS confidence increasing from 24% to 88%, and ability to integrate Islamic values into digital content from 15% to 80%. Teachers also reported increased motivation and ownership of digital pedagogy, with 84% expressing high motivation to continue using the LMS tool. The establishment of an LMS Clinic and Virtual Support Forum fostered ongoing peer support, contributing to the sustainability of digital pedagogy. This research contributes to the understanding of how digital transformation in Islamic education can be successfully integrated with religious values through a structured and participatory mentoring program.

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INTRODUCTION

The transformation of the education sector through digitalization has become an imperative in the 21st century, especially in the wake of global shifts toward remote and technology-mediated learning. The integration of digital learning platforms, particularly Learning Management Systems (LMS), has provided opportunities to enhance the accessibility, efficiency, and personalization of instructional delivery (Koh & Kan, 2021; Bradley, 2021; Alia, 2022). However, the implementation of such systems within secondary education in rural Indonesia remains uneven, with substantial gaps in both technological

infrastructure and teacher readiness (Sholeh, 2023; Wadi et al., 2023; Zuhdi et al., 2024). SMP Pakuniran, located in the Probolinggo region of East Java, represents a case in point where digital learning remains underutilized, largely due to limited professional development, lack of systematic support, and the absence of culturally and religiously contextualized digital content.

A preliminary needs assessment involving field observations and interviews with school stakeholders highlighted two major challenges: first, teachers' unfamiliarity with the operation of LMS platforms such as Moodle or Google Classroom (Veluvali & Surisetti, 2022); and second, the absence of a structured approach to embedding Islamic values into digital teaching materials (MIR et al., 2024). This reflects a broader issue of digital inequity and the need for tailored interventions that align technological integration with the school's educational vision and socio-religious identity. Magtibay (2024) and Tian et al. (2025), affirm that capacity-building through guided mentoring and structured workshops can significantly improve teachers' digital literacy and pedagogical competencies (Sumardi et al., 2025). Nevertheless, most training programs stop short of addressing the character education aspect, particularly in faith-based school contexts where moral and spiritual formation is equally prioritized.

This community engagement program addresses the dual challenge of digital transformation and value-based education through a mentoring-based approach (Annamalai et al., 2021). The originality of this initiative lies in its holistic design, combining hands-on LMS training with the development of digital learning materials that incorporate Qur'anic values, Prophetic traditions, and contextual Islamic narratives (Prahani et al., 2022). In doing so, the program seeks to contribute not only to digital competency development but also to the realization of an Islamic Smart School model—an educational framework that integrates technological innovation with spiritual enrichment and character development (Slamet & Mukminatien, 2024).

Beyond immediate capacity-building, the program also aims to institutionalize the change process through the formulation of a Smart School Islamic Action Plan and supporting standard operating procedures. By fostering collaboration, building teacher confidence, and strengthening policy alignment, this initiative seeks to offer a scalable and sustainable model for other schools in similar socio-educational contexts (Anshari, 2024). Community service program responds directly to the practical needs and developmental gaps faced by the school community (Faiz et al., 2023). It addresses the broader challenge of how Islamic educational institutions can meaningfully participate in the digital education landscape without compromising their foundational values. Through integrative mentoring and context-sensitive implementation, the program aspires to facilitate sustainable educational innovation that is both technologically competent and spiritually rooted (Stoesz, 2022).

The aim of this research is to explore the process and impact of mentoring the implementation of Learning Management Systems (LMS) within SMP

Pakuniran, particularly in realizing an Islamic Smart School model that integrates digital tools with Islamic values. The research focuses on examining how a structured mentoring approach, supported by capacity-building activities such as training workshops, one-on-one support, and collaborative content development, can enhance teachers' digital competencies and pedagogical practices. In addition, the research investigates the challenges and opportunities involved in embedding Islamic principles into digital learning materials and how these materials can be utilized to improve students' moral and spiritual development alongside their academic achievement. The program's three-stage structure—planning, implementation, and evaluation—provides a framework for understanding how digital transformation can be harmonized with faith-based education, ensuring that technological advancements do not overshadow but rather complement the school's religious values and ethos.

This research contributes to the broader discourse on digital transformation in education, particularly within faith-based and rural contexts, by offering a model for integrating technology with value-based education. It demonstrates that the application of Learning Management Systems, when combined with a clear focus on cultural and religious values, can serve as a powerful tool for both pedagogical innovation and character development. Furthermore, the research argues that successful digital education programs in Islamic schools should not solely focus on technological proficiency but also emphasize the importance of context-sensitive content that reflects the moral and spiritual needs of the students. By addressing the dual challenges of digital inequity and the integration of Islamic values in digital education, the study provides evidence of how tailored interventions can bridge the digital divide in rural areas while reinforcing the school's religious identity. It highlights the importance of collaboration, ongoing professional development, and strategic planning in ensuring that digital transformation is not only sustainable but also aligned with the school's long-term vision of fostering both academic excellence and spiritual growth.

METHOD

This community engagement initiative was conducted using the Asset-Based Community Development (ABCD) framework, which emphasizes leveraging existing strengths and potentials within the community to foster sustainable change (Mathie & Cunningham, 2008; Duncan, 2016). The program was structured into four main components (asset identification, building capacity, collaborative design and action, and development for sustainability) to assist SMP Pakuniran in integrating digital learning with Islamic values through the implementation of a Learning Management System (LMS).

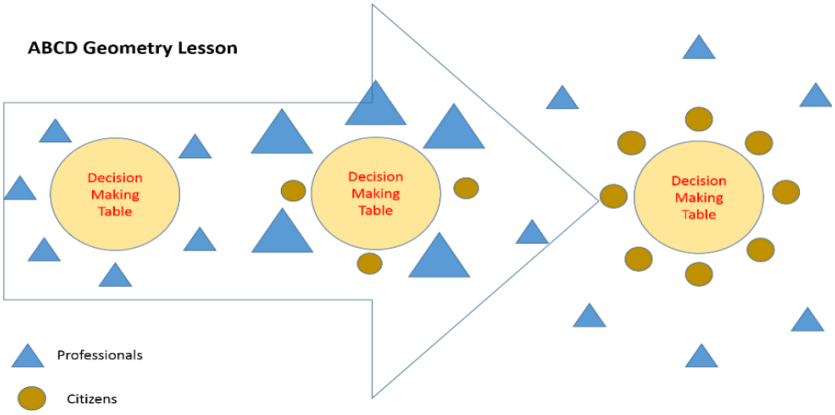

Figure 1. The Asset-Based Community Development Lesson (Duncan, 2016)

The first stage involved mapping the school's internal resources and existing capacities. Through field observations, structured interviews with 21 teachers and school leadership, and a digital readiness survey, the team identified key assets: the presence of committed educators, modest ICT infrastructure, and a strong culture of religious values. However, major challenges included limited digital literacy, low familiarity with LMS platforms, and the absence of structured strategies for Islamic digital education.

Based on the asset mapping results, capacity-building activities were designed to strengthen digital competencies and pedagogical integration. A series of training workshops and mentoring sessions were conducted focusing on basic and intermediate use of LMS platforms such as Google Classroom and Moodle, digital content development with embedded Islamic moral values using contextualized Qur'anic verses and Hadiths, and classroom administration and evaluation through LMS features (Bradley, 2020). Training adopted an andragogical approach, promoting active engagement, reflection, and peer collaboration among teachers grouped by subject area (Enes Işıkgöz, 2024).

FINDING AND DISCUSSION

Collaborative Design of Smart School

This phase involved joint planning and implementation of a contextual Islamic Smart School model. Focus Group Discussions (FGDs) were held with teachers and administrators to co-develop learning content and standard operating procedures. Teachers were supported through one-on-one mentoring and the establishment of an LMS Clinic, which served as a technical support hub. Digital teaching modules were produced collaboratively and trialed in classrooms, reinforcing the practicality of learned skills.

Figure 2. Formation of Internal School Support Team

To ensure long-term impact, a Smart School Islamic Action Plan was formulated with clear milestones, responsibilities, and policy directions. The school's internal team was strengthened to serve as change agents, promoting continuous innovation and peer mentoring. Formative and summative evaluations showed over 80% of participants demonstrated improved LMS proficiency and an increased ability to design faith-integrated digital content. The program concluded with the endorsement of institutional documents for strategic follow-up.

Throughout the program, participatory monitoring and adaptive feedback loops were applied to adjust implementation based on real-time insights. By building on existing community assets, rather than focusing solely on deficiencies, the ABCD approach successfully fostered ownership, collaboration, and lasting transformation.

Development of a Sustainable Digital Pedagogical Culture

A Smart School Islamic Action Plan and Standard Operating Procedures (SOPs) were collaboratively drafted and ratified by the school leadership. These documents define clear objectives, implementation timelines, and performance indicators for the LMS-based Islamic Smart School model. During Focus Group Discussions (FGDs), 92% of teachers expressed strong agreement that the strategic plan reflects the school's actual needs and values.

Teacher motivation was also observed to increase. A post-program questionnaire indicated that 84% of teachers were "very motivated" to continue integrating digital tools in the classroom, compared to only 36% at the outset. Moreover, 10 teachers voluntarily developed independent digital modules beyond the scope of the program, indicating a growing sense of ownership and innovation.

In summary, the program successfully achieved its intended outcomes by significantly enhancing digital teaching competencies, fostering the contextualization of religious values in online education, and institutionalizing support structures to ensure sustainability. These findings underscore the

effectiveness of asset-based, participatory mentoring models in rural educational settings.

Figure 3. Module Quality Assessment Process

Figure 4. Implementation of LMS Based Learning

The mentoring program implemented at SMP Pakuniran has demonstrated how targeted digital education initiatives, when grounded in cultural and religious values, can catalyze significant pedagogical transformation. The marked improvement in teachers' competencies in managing Learning Management System (LMS) based instruction (from 24% to 88% confidence level) illustrates the impact of structured professional development grounded in andragogical principles. The program design, which emphasized face-to-face workshops, individualized coaching, and contextual application, aligned well with this theoretical stance, contributing to its overall success.

Impact of Capacity-Building on LMS Proficiency

The community engagement program produced significant and measurable improvements in the digital pedagogical capacity of teachers at SMP Pakuniran, particularly in their ability to implement Learning Management System-based instruction while embedding Islamic values in their teaching practices.

Table 1. Summary of Quantitative Results of the LMS Mentoring Program

No.	Indicator	Pre-Program (%)	Post-Program (%)	Change (%)
1.	Teachers confident in using LMS (Moodle, Google Classroom)	24	88	+64
2.	Average score of LMS teaching proficiency (scale 0–100)	56	84	+28 pts
3.	Teachers integrating Islamic values in digital modules	15	80	+65
4.	Teachers using LMS for assessment and digital grading	28	92	+64

5.	Active participation in Virtual Support Forum	--	100	--
6.	Teachers expressing high motivation for digital-Islamic pedagogy	36	84	+48
7.	Teachers producing self-initiated digital learning modules post-program	--	48 (10 of 25)	--
8.	Teachers agreeing that the action plan reflects real school needs (via FGD)	--	92	--

Pre-program and post-intervention surveys involving 25 participating teachers revealed a marked increase in digital teaching competence. Prior to the program, only 24% of teachers reported being "confident" or "very confident" in using LMS platforms for instructional purposes. After the training and mentoring sessions, this number rose to 88%. Similarly, proficiency in designing online learning modules increased from a baseline average score of 56 (out of 100) to 84 by the final evaluation. Practical workshops contributed to this growth, with over 90% of teachers successfully completing tasks related to course setup, assignment creation, and digital assessments.

A content audit conducted at the end of the program showed that 20 out of 25 teachers (80%) were able to produce digital learning materials that explicitly included Islamic teachings such as Qur'anic verses, Hadith references, and local Islamic moral stories. Prior to the intervention, fewer than 15% of teachers had attempted such integration. These materials were applied in various subjects including Islamic Education, Bahasa Indonesia, and Social Sciences. Teachers noted that the integration process encouraged them to reflect more deeply on the moral dimensions of their teaching.

To provide sustainable assistance, the program established an LMS Clinic comprised of five trained teacher-mentors. Within the first two months of implementation, the clinic handled over 60 technical support requests ranging from login issues to content uploads. Additionally, a WhatsApp-based Virtual Support Forum was created and joined by 100% of the teaching staff. The forum recorded an average of 35 weekly interactions, including questions, peer advice, and resource sharing.

Discussion

The integration of Islamic values into digital learning materials emerged as both a challenge and an opportunity. Prior to the intervention, only 15% of teachers embedded spiritual content in their digital teaching, which rose to 80% post-program. This outcome supports the findings of Magtibay & Nueva España (2023), who assert that religiously contextualized pedagogy fosters not only moral development but also improves student engagement and identity formation. The implementation of value-based education through digital platforms is consistent with constructivist learning theory, which posits that learners construct knowledge more meaningfully when learning is connected to their cultural and spiritual realities (Odekeye et al., 2023). According Ikhsan et al.

(2023), adult learners benefit most when learning is experiential, problem-centered, and relevant to their immediate professional contexts.

Another critical aspect of the program's success was the facilitation of a collaborative professional culture. The establishment of the LMS Clinic and virtual support groups fostered peer learning and built a sustainable community of practice; an essential element of long-term educational change (Net, 2024). Teachers' engagement in co-developing an Islamic Smart School Action Plan and accompanying SOPs reflected a shift in mindset from passive recipients of technology to active designers of pedagogical innovation. This collaborative process not only enhanced ownership but also ensured the contextual relevance of the outputs, aligning with Stoesz (2022) theory of educational change, which emphasizes the importance of internal motivation and institutional alignment.

From a theoretical standpoint, the program offers an applied example of how digital transformation in education can be guided by a dual-framework: technological pedagogical knowledge (TPK) and moral-spiritual integration. The significant growth in teachers' ability to conduct LMS-based assessments (from 28% to 92%) and the production of independent learning modules (40%) validate Sumardi et al. (2025) SPADA model, which underscores the interconnectedness of technological, pedagogical, and content knowledge. When enhanced with Islamic content, this model becomes contextually richer and socially more impactful.

The social change observed in this program was not limited to individual teacher growth but extended to institutional culture. The increased collective awareness (84%) of the importance of Islamic digital pedagogy, as well as the acceptance and formalization of the Smart School Islamic Action Plan (endorsed by 92% of teachers), indicate a paradigm shift. This aligns with the community-based education model, which promotes education as a participatory and transformative process (Slamet & Mukminatien, 2024).

Despite these positive outcomes, structural barriers such as limited infrastructure and initial resistance to digital tools remained challenges. These were mitigated through iterative mentoring and responsive strategies, confirming the importance of adaptive leadership and sustained engagement. For broader impact and sustainability, it is recommended that future programs expand into several areas: (1) development of scalable digital infrastructure (Anshari, 2024), (2) advanced, personalized training for master teachers (Stoesz, 2022), and (3) institutional partnerships with local higher education institutions and religious organizations to strengthen theological-pedagogical integration (Bradley, 2020).

Community engagement project reinforces that digital transformation in Islamic education requires not just technical capacity-building, but also value-based innovation, collaborative culture, and sustainable systems development. Its success highlights the feasibility of replicating similar models in other schools,

with the potential to position Indonesia's Islamic schools at the forefront of ethical and digital educational reform.

The outcomes of the community engagement program illustrate not only individual improvements in teachers' digital competencies but also a deeper institutional transformation marked by the development of a collaborative professional culture. This culture, nurtured through ongoing mentoring, the establishment of the LMS Clinic, and the formulation of an Islamic Smart School Action Plan, reflects a collective shift toward sustainable digital innovation in education. The integration of Islamic values into digital learning design has proven to be both feasible and meaningful, fostering a pedagogical approach that is not only technologically adept but also spiritually grounded. The program demonstrates that with the right facilitation and structured guidance, schools in rural and socio-religiously distinct contexts can evolve into digitally empowered learning environments. The creation of tiered training programs tailored to teachers' evolving competencies, along with institutional incentives, will be critical in sustaining this transformation. Through such strategic actions, the model established at SMP Pakuniran may serve as a scalable reference for broader educational reform that harmonizes technological advancement with core spiritual values.

In essence, the project reflects that educational reform in Islamic contexts need not choose between tradition and innovation; rather, it can harmonize both through thoughtful design, community participation, and sustained mentorship. With strategic reinforcement, SMP Pakuniran has the potential to serve as a replicable model of an Islamic Smart School—where digital learning and spiritual identity coalesce to shape future-ready, morally grounded students.

CONCLUSION

This community engagement initiative has provided empirical validation for the integration of technological innovation and religious values in enhancing digital education practices in Islamic school settings. The intervention (anchored in an andragogical framework and guided by the SPADA) demonstrated that when teachers are given contextualized, hands-on training combined with value-based mentoring, they can effectively transition toward more meaningful and spiritually rooted digital pedagogies. The transformation observed among participating teachers (from low baseline digital competencies to confident use of LMS platforms and the successful integration of Islamic values affirms the theoretical proposition that pedagogical change is most impactful when it aligns with the cultural and moral foundations of the learning community.

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