JMKSP (Jurnal Manajemen, Kepemimpinan, dan Supervisi Pendidikan)
Volume 10 (1) 2025, 465-484
E-ISSN 2614-8021, P-ISSN 2548-7094

Analysis of School Readiness in Developing School Digitalization at MA Al Hikmah Kajen

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Article History: Received on 04 June 2025, Revised on 11 June 2025, Published on 17 June 2025

Abstract: This research aims to analyze the readiness of MA Al Hikmah Kajen in developing school digitalization, focusing on infrastructure, digital competence of teachers and students, principal's leadership, and obstacles. Digitalization is crucial for education quality, yet many institutions face implementation challenges. MA Al Hikmah, a madrasah in a pesantren environment, uses digital components like online admissions and virtual classrooms, but their daily application is limited by internal policies restricting student device use. Using a descriptive qualitative approach with interviews, observation, and documentation, the study found commendable infrastructure readiness. Teacher competence shows progress but is uneven, especially among senior educators. The principal's leadership positively supports digitalization, though more adaptive policy encouragement is needed. Key impediments are the student gadget ban and persistent digital literacy limitations among some teachers. The research recommends flexible policies, continuous digital training, and cultivating a digital ecosystem aligned with pesantren values.

Keywords: *Analysis, Readiness, Development, School_Digitalization*

A. Introduction

Digital transformation has profoundly reshaped human society across myriad domains, with education being a particularly significant area of impact. In an era characterized by rapid technological disruption, the educational landscape is undergoing an undeniable paradigm shift. Digital technology is no longer merely an auxiliary tool but has emerged as a fundamental pillar in the conceptualization and design of future educational systems. This technological evolution presents numerous opportunities, notably in the realm of digitalization. There is a compelling necessity for educational institutions to adapt proactively to these advancements. The pervasive development of information and communication technology (ICT) within education has fundamentally altered traditional learning paradigms, shifting from a predominantly teacher-centered model to one that is increasingly technology-based, thereby enhancing educational accessibility (Ramadhan et al., 2023). Indeed, digital technology has become an intrinsic and indispensable component of modern education (Hasnida & Adrian, 2024).

This transformative shift is further underscored by the evolving characteristics of contemporary students, who are largely "digital natives." These learners exhibit a heightened responsiveness to technology-based learning methodologies compared to conventional instructional approaches. Consequently, the integration of digital tools and practices not only addresses the demands of the current era but also facilitates the creation of more effective and relevant strategies for delivering educational content.

Digitalization, as defined by (Anita & Astuti, 2022), encompasses the process of implementing or utilizing digital systems in various tasks. More broadly, it involves the conversion of physical documents and

similar materials into digital formats, with the overarching aim of fostering critical thinking and stimulating student engagement through more captivating learning media (Nelga et al., 2022). Specifically, school digitalization refers to the comprehensive process of leveraging digital technology to elevate the quality of education. This encompasses diverse aspects, including the learning process itself, school administration, interactions among students, teachers, parents, and staff, and overall school management (Sutarsih et al., 2024).

The benefits of digitalization in managing educational institutions are manifold, primarily manifested through increased efficiency and effectiveness in learning processes and expanded access for students (Trenggono Hidayatullah et al., 2023). Digitalization also fosters enhanced collaboration between teachers and students via digital platforms, thereby broadening the scope of learning and enriching the quality of their interactions. Furthermore, the strategic application of digitalization enables personalized learning experiences, allowing each student to access educational materials tailored to their individual needs and learning pace. This represents a significant stride towards establishing an inclusive, differentiated, and truly student-centered education system.

The successful implementation of school digitalization is intrinsically linked to three pivotal elements: accessibility, data quality, and adaptability to change. Accessibility pertains to the real-time availability of information concerning school activities, student grades, and other relevant data, which has historically been challenging for parents and students to obtain. In terms of data quality, digitalization facilitates the management of data that was previously manual and prone to inaccuracies, leading to improved data integrity. The adoption of school digitalization also necessitates that institutions, educators, and administrative staff cultivate a strong capacity for adaptation, particularly concerning technological

advancements. Schools that foster a culture of innovation and demonstrate a willingness to adapt to change inherently possess greater resilience and strength in their digitalization endeavors. Moreover, the success of digitalization initiatives is not solely dependent on the school's internal efforts but also hinges on the active involvement and support of parents (Health, 2020).

In Indonesia, the strategy of developing school digitalization, which involves leveraging technology in learning, has been widely adopted by numerous schools. Digitalization serves as a crucial strategy for navigating the challenges of the digital era by integrating information and communication technology (ICT) into learning through online platforms and educational applications, ultimately boosting student engagement and access to learning resources (Nabila, 2024). By integrating technology into the learning environment, it is anticipated that students will gain more engaging and relevant learning experiences, aligning with the global demand for digital skills. The use of Learning Management Systems (LMS), interactive learning applications, and virtual classrooms has created new avenues for students to learn flexibly, transcending traditional boundaries of space and time.

The school digitalization program, initiated by the Minister of Education and Culture in 2019, was conceived as a response to the 4.0 industrial revolution. This program embodies a "new learning" paradigm characterized by a student-centered approach, multimedia integration, collaborative work, information exchange, critical thinking, and informed decision-making. While maintaining the importance of face-to-face instruction, school digitalization primarily aims to enrich learning by incorporating digital content to enhance student interest.

It is crucial to recognize that digitalization extends beyond mere devices and applications; it represents a fundamental cultural shift

within the school organization. This transformation necessitates an open mindset towards innovation, visionary leadership, and a collective readiness among all school community members to learn and adapt. A significant challenge in implementing digitalization in schools is the persistent disparity between policies formulated at the central level and the practical realities encountered at individual educational units. Many schools continue to grapple with technical limitations, insufficient human resources, and inadequate managerial preparedness to comprehensively adopt technology.

Furthermore, the integration of technology in education across Indonesia faces numerous hurdles, including disparities in access and infrastructure (Subroto et al., 2023). This is corroborated by (Suharto & Adriyanto, 2020), who notes that the implementation of digital technology in education still confronts various challenges, such as inadequate infrastructure, low teacher competence in technology utilization, and budgetary constraints. The government has consistently strived to enhance education quality through various policies, including the Merdeka Curriculum and Education Digitalization, aimed at addressing these issues. (UNESCO, 2020) emphasizes the substantial potential of digital technology in bridging educational disparities, particularly in remote or underdeveloped regions, provided it is implemented with meticulous planning. However, the ultimate success of these policies is heavily contingent upon their effective implementation at the school level, which frequently encounters technical difficulties, organizational culture resistance, and insufficient leadership support.

At the individual school level, readiness for developing school digitalization is profoundly influenced by the local context. This includes the availability of infrastructure, the digital competence of teachers, internal policies, and the prevailing organizational culture. It is not uncommon for schools to possess the necessary devices and

internet connectivity but remain unable to fully leverage them due to conservative policies or a lack of digital literacy among educators. This situation is exemplified at MA Al Hikmah, a madrasah situated within a pesantren environment. Despite the school's existing digital elements, such as the use of Kelas Pintar as a virtual classroom, an online student admission system (SPMB), a school website, and the Rapor Digital Madrasah (RDM), the integration of digital tools into the learning process remains limited. The mere presence of technology does not automatically guarantee a comprehensive digital transformation in the school's educational practices. Strategic, structured, and goal-oriented efforts are imperative, particularly concerning the managerial aspects of the school, which encompass the planning, organization, implementation, and oversight of digitalization programs.

Therefore, this research is essential to thoroughly investigate the extent of MA Al Hikmah Kajen's readiness in advancing school digitalization. The expectation is that this study will motivate the school to pursue further development, enabling it to implement more innovative digitalization initiatives that effectively address the challenges of a rapidly evolving digital technology era. Beyond its direct impact on improving academic systems and school management, this research holds significant importance as part of a broader effort to enhance digital-based education quality within the MA Al Hikmah environment. In an increasingly competitive global landscape, student quality is determined not only by academic mastery but also by digital proficiency, which includes communication, collaboration, and technology-driven problem-solving skills. Furthermore, teachers must also possess competence and adaptability to contemporary developments by continuously enhancing their digital literacy. Ultimately, this research is anticipated to provide solutions to the various challenges confronting the school in its journey towards comprehensive school digitalization.

B. Methods

This research employed a descriptive qualitative method, a design specifically utilized to analyze events as they unfold during the research period. Data were systematically collected through a combination of observation, interviews, and documentation, and subsequently subjected to rigorous analysis. According to (Creswell, 2017), descriptive research is a qualitative methodology aimed at providing an in-depth and detailed description and explanation of social or cultural phenomena. The primary objective of this type of research is not to test hypotheses but rather to gain a profound understanding of the context and meaning embedded within the phenomena under investigation.

From the 55 teachers at MA Al Hikmah who were used as the population, the research subjects consisted of the head of the madrasah, the deputy head of the madrasah for curriculum, teachers who had used technology in learning, and TU staff involved in managing the school's digital system, so 1 school principal, 1 curriculum deputy, and 3 teachers were taken as data samples. The selection of informants was done purposively, namely based on their direct involvement in the digitalization process at school.

Data was collected through in-depth interviews, participatory observation, and documentation. Interviews were used to explore informants' views and experiences regarding school digitalization. To further structure these interviews and systematically capture perspectives, an interview grid, such as a repertory grid was employed, allowing for a highly structured conversation to explore the interviewee's world of meaning by defining topics, identifying elements, and eliciting bipolar constructs for rating. Participatory observation involved direct engagement in and observation of learning activities and school management processes that

incorporate digital systems. Documentation encompassed a range of school records, including policies related to technology use, strategic planning documents, records of learning application usage, and evaluation reports pertaining to digitalization initiatives.

The analysis of the collected data was an interactive process, progressing through distinct stages: data reduction, data presentation, and conclusion drawing. Initially, researchers meticulously filtered the data to retain only the most relevant information. This refined data was then organized and presented in a narrative format, facilitating the identification of recurring patterns, relationships, and emerging trends. Provisional conclusions were then formulated, followed by iterative verification processes to rigorously ensure the validity and trustworthiness of the findings. To further bolster the credibility and robustness of the qualitative findings, this research employed source and technique triangulation.

The research was conducted at MA Al Hikmah Kajen, a madrasah with a pesantren background. While the institution has already implemented several digital components, such as Kelas Pintar, SPMB Online, a School Website, and Raport Digital Madrasah (RDM), it continues to face significant constraints in achieving a comprehensive integration of technology into its learning and administrative processes.

C. Results and Discussion

The findings of this research, which analyzed MA Al Hikmah's readiness for school digitalization across indicators of infrastructure, human resource competence, and leadership, are presented and discussed below.

Infrastructure Readiness Factor

MA Al Hikmah Kajen demonstrates a substantial level of basic infrastructure readiness essential for supporting comprehensive digitalization. The school is well-equipped with fundamental digital resources, including a sufficient number of computers and robust internet access that extends throughout the entire school premises. This foundational provision indicates a strong capacity for the school to integrate technology across all its operational aspects.

Specifically, the school's computer laboratory is furnished with 70 desktop computers and an additional 20 laptops designated for teacher use. All these devices are maintained in optimal working condition, indicating regular care, and are seamlessly connected to the local network. Furthermore, each classroom is outfitted with projectors and interactive screens, facilitating digital-based presentations and enhancing the learning experience. The computer laboratory is actively utilized daily by students for various academic purposes, including completing assignments, engaging in learning activities, and supporting extracurricular initiatives such as the school's journalism club.

The school has established a strategic partnership with a high-speed internet provider, leveraging a 100 Mbps fiber optic connection. This ensures that internet access is not confined to a single point but is broadly distributed across all areas of the school, encompassing administrative offices, student affairs rooms, counseling rooms, and laboratories. The pervasive availability of school Wi-Fi enables both teachers and students to remain connected during scheduled learning hours and even outside of formal school time. However, a minor limitation identified is the inconsistent signal coverage in certain areas, particularly on the third floor, which are distant from

the main routers, indicating a need for network expansion in these specific zones.
MA Al Hikmah also independently manages a local server, which serves as a centralized repository for critical data. This includes its proprietary domain for the Madrasah Digital Report, online examination systems, the online PPDB (student admission) system, and comprehensive student and teacher databases. The server benefits from automated backup procedures managed by the IT administrative team, who are also responsible for routine maintenance, system updates, and prompt technical troubleshooting to mitigate any risk of data loss.

Digital Competence of Teachers and Students

MA Al Hikmah Kajen employs 55 teachers, whose ages span a wide range from 24 to 60 years. This significant age disparity between younger and more senior educators creates a noticeable gap in their digital competencies. For teachers under 35 years old, approximately 80% have proficiently mastered the use of online learning platforms in their classrooms. These younger teachers are also actively engaged in creating interactive learning materials using various digital tools like Canva and online quizzes. They consistently integrate digital-based learning activities and assignments, such as utilizing interactive videos, into their pedagogy. Furthermore, these younger faculty members actively contribute to the school website by developing and uploading digital content that includes learning materials.

In stark contrast, senior teachers, typically those over 35 years old, exhibit a different level of digital engagement. While they are proficient in the fundamental use of the Madrasah Digital Report, a requirement for their roles as homeroom teachers, their primary teaching approach remains conventional and largely teacher-focused. These educators often encounter difficulties when

attempting to access or effectively utilize more advanced digital technologies, such as interactive media content or various free online learning platforms. Despite this disparity, the school proactively organizes annual digital literacy training sessions, inviting external experts, such as those from Kelas Pintar, to instruct teachers on the effective use of virtual classrooms that facilitate easy access to learning materials for students. During these training sessions, each senior teacher is paired with a younger teacher for peer support and guidance. The overarching objective of this initiative is to foster greater collaboration among teachers, thereby cultivating a digital environment that effectively caters to the diverse needs of all educators in their pursuit of enhancing education quality.

Students at MA Al Hikmah are subject to an internal policy that restricts the use of personal gadgets in class. However, the school compensates for this by providing access to its computer laboratory and all available computers for student use. Students generally demonstrate good participation in digital-based learning activities. Notably, students enrolled in the Vocational class, one of MA Al Hikmah's specialized majors, utilize computers daily as an integral part of their graphic design curriculum, maximizing the use of these resources. Beyond scheduled learning hours, students are granted access to the computer laboratory for completing assignments, preparing presentations, or developing activity proposals for student organizations. In classroom settings, students exhibit enthusiasm and active participation in interactive quizzes and online discussions facilitated by teachers.

The integration of technology into the school's daily operations is further evident in teachers' utilization of various platforms for delivering instructional materials to students, and inter-teacher communication is significantly streamlined through the use of WhatsApp groups. In the learning process, a segment of teachers

effectively incorporates learning videos from YouTube and creates digital presentations to explain concepts, indicating that technology has become a routine component of learning, albeit its application is not yet uniformly distributed across all subjects and teachers.

In the administrative domain, teacher and student attendance records are now digitally maintained and reported daily. The administrative staff efficiently uses applications such as Excel and Google Spreadsheet for data recapitulation, drafting official correspondence, and managing student transfers. The curriculum team leverages web-based applications to compile lesson schedules at the commencement of each academic year. These practices collectively demonstrate that school digitalization has permeated numerous aspects of school activities, extending beyond just the classroom.

The general response of the school community to these digitalization efforts has been largely positive, particularly among younger teachers and students who perceive the more engaging and interactive learning methods as beneficial. However, a segment of the school community, predominantly senior teachers, expresses a sense of burden due to the requirement to learn new applications and engage in digital reporting. Despite this, they generally exhibit willingness to participate in training and strive to adapt to the new digital environment.

Currently, both teachers and students at MA Al Hikmah Kajen are in the nascent stages of achieving full digital readiness. The existing competence gap necessitates a differentiated approach to training and support, ensuring that all stakeholders can simultaneously elevate their digital proficiency to an adequate level. While young teachers serve as catalysts for change, senior teachers and some students require ongoing mentorship and assistance to ensure that

digital competence is equitably distributed across the entire school community.

Leadership of the Madrasah Principal

The visionary and collaborative leadership demonstrated by the madrasah principal is a pivotal determinant in the successful development of school digitalization at MA Al Hikmah. The school's overarching vision, "insah sholih wa mufid," aims to cultivate graduates who possess strong moral character and are beneficial to society. This profound commitment is clearly articulated and integrated into the annual work program, which strategically prioritizes digitalization development as a key objective.

A tangible manifestation of this commitment is the establishment of vocational classes, a direct response to the contemporary challenges that necessitate students to acquire essential digital skills. Furthermore, the school has implemented a curriculum designed to equip students with practical vocational abilities, including sewing, electrical work, informatics, and graphic design. The aspiration is that graduates of MA Al Hikmah will contribute meaningfully to society through their specialized expertise.

The madrasah principal employs a transformational leadership style, characterized by frequent organization of socialization events, internal workshops, and open discussions focused on fostering innovation in learning. Under the principal's guidance, a dedicated Digitalization Team has been established. This team comprises key stakeholders, including the curriculum vice principal, student affairs vice principal, young teachers, and administrative staff. Their responsibilities include designing strategic roadmaps for digitalization, coordinating training initiatives, and continuously monitoring the implementation of digital programs. This team is also tasked with overseeing content on social media platforms, managing

materials on the school website, and ensuring the efficient operation of the school's server.
While the principal's visionary and collaborative leadership has clearly laid out a mature plan for school digitalization, a crucial challenge remains in balancing the traditional values inherent to a madrasah environment with the imperative for digital innovation. A primary recommendation for the principal to address existing foundation regulations is the formulation of a more flexible and clearly defined policy regarding the use of personal gadgets.

Obstacles and Challenges

The most pronounced obstacle impeding the comprehensive development of school digitalization at MA Al Hikmah is an internal regulation that strictly prohibits students from bringing and utilizing personal gadgets within the classroom. This policy is primarily intended to maintain student focus and uphold the conventional values of the madrasah, which operates within a pesantren environment. However, this restrictive policy inadvertently hinders the effective implementation of collaborative and student-centered learning models that inherently require direct digital interaction. Consequently, students are largely limited to accessing educational materials from physical books, while their ability to engage with broader contextual information from the external digital world is severely constrained due to the absence of personal devices.

The prevailing pesantren values often position technology as a supplementary tool rather than an integral component of the core learning process. This cultural perspective necessitates a gradual adjustment, which can be facilitated through ongoing socialization efforts aimed at fostering a shared understanding among both the foundation and the school administration regarding the significant pedagogical benefits of technology.

Despite the school's commendable infrastructure, the allocation of financial resources for the sustained maintenance of digital devices and for professional development training remains limited. This budgetary constraint directly impacts the frequency and overall quality of the training programs that the school is able to organize, which are consequently relatively low. The existing disparity in digital capabilities among teachers and between different groups of students creates an imbalance in learning access. Some senior teachers continue to exhibit reluctance to experiment with new digital tools, while certain students who are less familiar with computers require more intensive assistance and guidance.

Not all teachers and stakeholders within the school community have enthusiastically embraced the digital transformation. Resistance to change is observed, often stemming from a perception that digital reporting adds an undue administrative burden on teachers. They may also view school digitalization as simply increasing their workload rather than streamlining processes.

A significant challenge that has not yet received adequate attention is the lack of integration among the various digital applications and platforms currently in use at the school. Systems such as Kelas Pintar, Madrasah Digital Report (RDM), the online examination system, the online PPDB system, the school website, and other administrative systems operate independently. This fragmentation leads to difficulties in data coordination, results in duplicated efforts, and creates confusion for users, including both teachers and students. The absence of a centralized platform capable of integrating all school digital services severely impedes the overall efficiency and effectiveness of technology utilization. Therefore, the future development of a comprehensive educational management information system that unifies these disparate applications is an essential and pressing need.

The obstacles identified are multidimensional, encompassing policy, cultural, budgetary, and literacy aspects, all of which are intricately interrelated and require an integrated approach. Without simultaneous attention and resolution across all these facets, efforts to advance school digitalization are likely to be stalled or remain partial in their implementation.

From the findings, it is evident that MA Al Hikmah Kajen is highly prepared in terms of infrastructure and demonstrates visionary leadership, but it is still progressing towards full digital competence and faces significant policy and cultural barriers.

D. Conclusions

Based on the comprehensive research findings, it can be concluded that MA Al Hikmah Kajen demonstrates a fairly good level of readiness in advancing school digitalization, particularly in terms of its robust infrastructure and the supportive policy direction from its leadership. The school is well-equipped with essential technological devices and possesses a reliable internet network. Furthermore, several digital systems, including Kelas Pintar, SPMB online, and RDM, have already been implemented and are actively utilized.

However, the full potential of digitalization development has not yet been optimally realized. This is primarily due to persistent challenges related to the digital competence of a segment of teachers, especially senior educators, and the presence of internal policies that do not adequately support the seamless integration of technology into the learning process. While the principal's leadership plays a crucial role in driving this transformative change, there is a continued need to strengthen support through targeted training initiatives and the implementation of policy adjustments that are adaptive to contemporary developments. Additionally, the unique cultural challenges inherent in the pesantren environment are

significant factors that must be carefully considered when implementing digitalization, ensuring that technological advancements remain harmoniously aligned with the institution's core religious values.

Therefore, some suggestions that can be given are the need for the school to organize regular and tiered digital literacy training according to the level of teacher competence, and to encourage collaboration between young and senior teachers in the use of technology. Internal school policies, such as the prohibition of gadget use for students, need to be reviewed to maintain disciplinary values but not hinder the digital learning process. The school principal is also expected to continue to be an agent of change by providing room for innovation for teachers and students, and building synergy between pesantren values and technological needs through a contextual digital learning approach. In addition, budget support and partnerships with external parties, such as government agencies or technology institutions, are also very much needed to optimize the sustainable development of school digitalization

References

Akbar, A., & Noviani, N. (2019). Tantangan dan Solusi dalam Perkembangan Teknologi Pendidikan di Indonesia. *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas Pgri Palembang*, *2*(1), 18–25.

Aksenta, A., Irmawati, Ridwan, A., & Hayati, N. (2023). *Literasi Digital (Pengetahuan dan Transformasi Terkini Teknologi Digital Era Industri 4.0 dan Sociaty 5.0)*. PT. Sonpedia Publishing Indonesia.

Almaskur, Lestari, Sukaningsih, D., Istama, & Ngazizah, N. (2024). Implementasi Digitalisasi Sekolah dalam Meningkatkan Kualitas Pembelajaran di SD Negeri Bulusari 01 Gandrungmangu. *Social, Humanities, and Education Studies (SHEs): Conference Series*, *7*(3), 135–141.

Anita, A., & Astuti, S. I. (2022). Digitalisasi Dan Ketimpangan

Pendidikan: Studi Kasus Terhadap Guru Sekolah Dasar Di Kecamatan Baraka. *Jurnal Pendidikan dan Kebudayaan*, *7*(1), 1–12. https://doi.org/10.24832/jpnk.v7i1.2509

Aziz, A. T., Desmawati, L., & Muarifuddin. (2023). Penerapan Digitalisasi Pada Proses Pembelajaran Kursus Di Lkp Vision College. *Comm-Edu (Community Education Journal)*, *6*(2), 70–86. http://journal.ikipsiliwangi.ac.id/index.php/comm-edu/article/view/17296

Butar, F. S. B., Setiawan, H. R., & Prasetia, I. (2024). Management of Technology-Based Learning Innovations in Improving the Quality of Learning. *Lectura : Jurnal Pendidikan*, *15*, 339–350.

Creswell, J. W. (2017). *Pendekatan Metode Kualitatif, Kuantitatif, dan Campuran*. Pustaka Belajar.

Gumelar, D. R., & Dinnur, S. S. (2020). Digitalisasi Pendidikan Hukum dan Prospeknya Pasca COVID 19. *Al-Ahwal Al-Syakhsiyyah : Jurnal Hukum Keluarga dan Peradilan Islam*, *1*(2), 111–122.

Hasnida, S. S., & Adrian, R. (2024). Tranformasi Pendidikan Di Era Digital. *Jurnal Bintang Pendidikan Indonesia (JUBPI)*, *2*(1), 110–116.

Lailan, A. (2024). Peran Teknologi Pendidikan Dalam Pembelajaran. *SENTRI: Jurnal Riset Ilmiah*, *3*(7), 3257–3262. https://doi.org/10.55681/sentri.v3i7.3115

Maisarah, M., Lestari, T. A., & Sakulpimolrat, S. (2022). Urgensi Pengembangan Media berbasis Digital Pada Pembelajaran Bahasa Indonesia. *EUNOIA (Jurnal Pendidikan Bahasa Indonesia)*, *2*(1), 65. https://doi.org/10.30821/eunoia.v2i1.1348

Marginingsih, P., Kusumaningsih, W., & Violinda, Q. (2025). Digitalization Management in Schools : A Strategic Framework for Enhancing Academic Quality. *Jurnal Paedagogy: Jurnal Penelitian dan Pengembangan Pendidikan*, *12*(2), 391–400. https://e-journal.undikma.ac.id/index.php/pedagogy/index

Nabila, D. (2024). Masa Depan Pendidikan: Pengembangan Strategi Pembelajaran di Era Digital. *JUPSI: Jurnal Pendidikan Sosial*

Indonesia.

Novita Sari, P., & Miyono, N. (2023). Peran Digitalisasi Sekolah dalam Meningkatkan Manajemen Mutu Pendidikan pada Taman Kanak-Kanak Negeri Pembina Kabupaten Semarang. *Jurnal Inovasi Pembelajaran di Sekolah*, *4*(2), 728–735. https://doi.org/10.51874/jips.v4i2.177

Nur, S. A., Mahya, A. F. P., & Santoso, G. (2022). Revolusi Pendidikan di Era Society 5.0; Pembelajaran, Tantangan, Peluang, Akses, Dan Keterampilan Teknologi. *Jurnal Pendidikan Transformatif (Jupetra)*, *Vol. 01 No*, 18–28.

Putra, J. E., Sobandi, A., & Aisah, A. (2024). The Urgency of Digital Technology In Education: A Systematic Literature Review. *Jurnal EDUCATIO: Jurnal Pendidikan Indonesia*, *10*(1), 224. https://doi.org/10.29210/1202423960

Putra, L. D., & Pratama, S. Z. A. (2023). Pemanfaatan Media dan Teknologi Digital Dalam Mengatasi Masalah Pembelajaran Dimasa Pandemi. *Jurnal Transformation of Mandalika*, *4*(8), 323–329. https://doi.org/10.37092/ej.v4i1.296

Putrawangsa, S., & Hasanah, U. (2018). Integrasi Teknologi Digital Dalam Pembelajaran Di Era Industri 4.0. *Jurnal Tatsqif*, *16*(1), 42–54. https://doi.org/10.20414/jtq.v16i1.203

Ramadhan, M. S., Apriliani, S. D., Firjatullah, N. S., & Pratama, R. Y. P. (2023). Dampak Perkembangan Teknologi Digital Di Sektor Pendidikan. *Journal of Comprehensive Science (JCS)*, *2*(6), 1772–1784. https://doi.org/10.59188/jcs.v2i6.399

Setiyono, P., Haryati, T., & Wuryandini, E. (2025). Strategi Digitalisasi Sekolah dan Kualitas Pembelajaran di Era 4.0. *Indonesian Research Journal on Education : Jurnal Ilmu Pendidikan*, *5*(1), 458–464.

Subroto, D. E., Supriandi, Wirawan, R., & Rukmana, A. Y. (2023). Implementasi Teknologi dalam Pembelajaran di Era Digital: Tantangan dan Peluang bagi Dunia Pendidikan di Indonesia. *Jurnal Pendidikan West Science*, *1*(07), 473–480. https://doi.org/10.58812/jpdws.v1i07.542

Suharto, T., & Adriyanto, R. (2020). Peran Teknologi Informasi dan Komunikasi dalam Pembelajaran PKn di Era Digital. *Jurnal Pendidikan Kewarganegaraan*, *10*(1), 64–73.

Syafawani, U. R., & Prasetyo, T. (2024). Urgensi Inovasi Penggunaan Teknologi dalam Pendidikan : Analisis Berdasarkan Kajian Literatur. *Jurnal Pengajaran Sekolah Dasar*, *3*(2), 214–230. https://doi.org/10.56855/jpsd.v3i2.1276

Trenggono Hidayatullah, M., Asbari, M., Ibrahim, M. I., Hadidtia, A., & Faidz, H. (2023). Urgensi Aplikasi Teknologi dalam Pendidikan di Indonesia. *Journal of Information Systems and Management*, *02*(06), 70–73. https://jisma.org/index.php/jisma/article/view/785/137

UNESCO. (2020). *Digital Learning and Transformation of Education*. https://www.unesco.org/en/digital-education