

Management Strategies for Enhancing the Quality of Student Learning Processes in the Digital age

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ABSTRACT

Keywords:

Management Strategy; Learning Process; Digital Era; Learning Quality; Educational Technology.

This research aims to describe management strategies for strengthening the quality of students' learning processes in the digital era at SDIT Nurul Hayah Ketanggungan Brebes. The study is motivated by the need for elementary schools to respond to digital transformation pedagogically so that technology can optimally support learning quality. A qualitative approach with a case study design was employed, with data collected through observation, in-depth interviews, and documentation involving the principal, teachers, and educational staff as informants. Data analysis was conducted through data reduction, data display, and interactive conclusion drawing. The findings reveal that management strategies for strengthening the quality of students' learning processes in the digital era have been implemented systematically, with management playing a crucial role in strengthening learning quality through strategic planning, organization, implementation, and evaluation. The implications of these strategies are reflected in increased student engagement, learning flexibility, and the development of 4C competencies (critical thinking, creativity, collaboration, and communication) as well as digital literacy. This study contributes to the development of digital-based educational management at the elementary school level, confirming that school management has a significant role in improving the quality of students' learning processes in the digital era.

INTRODUCTION

Digital development has transformed educational practices, particularly in managing students' learning processes in elementary schools. This transformation is driven by adaptive, systematic, and quality-oriented management actors and strategies. The change is not merely related to the use of technology as a learning tool, but also requires managerial strategies capable of integrating technology pedagogically, systematically, and with a focus on learning quality. Management strategy has become a crucial factor in determining the success of educational institutions in responding to this transformation. According to (Fred R. David, 2019) management strategy refers to a series of planning and decision-making processes designed to achieve organizational goals effectively and in alignment with institutional vision. In the educational context, improving the quality of students' learning processes in the digital era requires flexible management so that technology becomes not only symbolic but also genuinely enhances learning effectiveness. UNESCO emphasizes that educational technology does not automatically improve learning outcomes unless it is integrated pedagogically and contextually into the learning process (Global Education Monitoring Report, 2024). Similarly, the OECD found that learning quality is strongly influenced by school capacity, principal leadership, and teachers' readiness in responding to digital transformation.

Over the past decade, numerous studies have examined learning quality within digital contexts. (Leithwood & Jantzi, 2000) found that school leadership influences learning effectiveness through strengthening organizational culture and managing educational resources. Furthermore, (Sallis, 2014) emphasized that the implementation of Total Quality Management (TQM) in education can sustain the quality of learning processes through continuous improvement. Recent studies on teachers' digital literacy indicate that teachers' ability to utilize technology contributes significantly to improving pedagogical competence and learning quality in elementary schools (Susilowati, 2025). Other studies highlight the use of digital media and Learning Management Systems (LMS) as approaches to enhancing learning effectiveness. However, most of these studies still focus on specific aspects, such as teacher competence, learning media, or limited use of digital platforms.

Comprehensive studies examining management strategies as best practices in strengthening the quality of students' learning processes in integrated Islamic elementary schools remain relatively limited. This gap is reinforced by preliminary findings gathered through observations and initial interviews at SDIT Nurul Hayah Ketanggungan Brebes. Observations indicated that the school has utilized technology in both learning and administrative processes, such as digital learning media and online communication systems. However, the implementation of technology still faces several challenges, including variations in teachers' readiness, suboptimal digital learning management, and the need to strengthen coordination and evaluation of technology-based learning. Preliminary interviews with school stakeholders also revealed that improving the quality of students' learning processes cannot rely solely on the availability of technology, but instead requires management strategies capable of integrating planning, implementation, monitoring, and continuous evaluation of learning processes. This situation indicates the need for a more flexible learning management model to address the dynamics of the digital era.

Based on these gaps, this study seeks to contribute by examining management strategies to strengthen the quality of students' learning processes in the digital era within an integrated Islamic elementary school context. This research focuses on three main questions: (1) how management strategies are implemented to strengthen the quality of students' learning processes in the digital era; (2) why such strategies are important to adopt; and (3) what impacts these strategies have on the quality of students' learning processes. This study is relevant because the success of digital transformation in education is not solely determined by the presence of technology, but also by the quality of educational management. Without proper management, the use of technology may lead to unequal access, reduced quality of learning interaction, and unproductive dependency on technology (Global Education Monitoring Report, 2024). The novelty of this study lies in its focus on positioning management strategy as the core element in strengthening the quality of students' learning processes within the context of an integrated Islamic elementary school, rather than merely focusing on the technical use of educational technology. Since this study employs a qualitative approach, no research hypotheses are formulated.

This research aims to describe management strategies for strengthening the quality of students' learning processes in the digital era, explain the importance of such strategies, and analyze their implications for the quality of students' learning processes at SDIT Nurul Hayah Ketanggungan Brebes. Theoretically, this study is expected to enrich the discourse of Islamic

educational management, particularly regarding learning management in the digital era. Practically, the findings are expected to serve as a reference for school principals, teachers, and educational administrators in developing more effective, adaptive, and quality-oriented learning management strategies.

METHOD

This research was conducted at SDIT Nurul Hayah Ketanggungan Brebes as a case study because the school is a newly established educational institution actively developing learning management strategies based on Islamic values and digital technology. The selection of the research site was based on the uniqueness of the school in integrating a contextual curriculum, project-based learning, and the use of technology in the learning process. The study focused on management strategies to improve the quality of students' learning processes in the digital era. The units of analysis included the principal, teachers, and learning activities both inside and outside the classroom. Operational curriculum documents were also used as important references to understand the implementation of learning management practices (Robert K. Yin, 2018).

This research employed a qualitative research method with a best practice design aimed at exploring in depth the actual implementation of management strategies in the school. The data consisted of primary and secondary data. Primary data were obtained directly from informants through field interactions, while secondary data were derived from school documents such as curricula, learning programs, and educational activity archives. This approach was chosen because it provides a comprehensive, contextual, and in-depth understanding of the phenomenon under study (Creswell dan Poth, 2018).

The data sources in this study included observation, documentation, and in-depth interviews. The main informants consisted of the principal as the policymaker, teachers as learning practitioners, and educational staff who supported the educational process. In addition, data were collected from official school documents and students' learning activities. The selection of informants was based on their direct involvement in the implementation of learning management strategies at the school. Informants were selected using purposive sampling techniques, namely based on specific criteria relevant to the research objectives. Patton states that purposive sampling is used to select informants who possess the most relevant information related to the phenomenon being studied. (Patton, 2007). This technique enabled the researcher to obtain in-depth data relevant to the research needs.

The data collection techniques used in this study included observation, in-depth interviews, and documentation. Observation was conducted to directly examine the learning process and the implementation of management strategies in the classroom. Interviews were used to explore detailed information from informants regarding the strategies, the reasons for their implementation, and their impact on the quality of students' learning processes. Documentation complemented the data through the analysis of documents such as curricula, learning tools, and school activity reports. According to Merriam and Tisdell, the combination of various data collection techniques in qualitative research aims to enhance the depth and accuracy of data through triangulation (Miles dan Huberman, dkk, 2019). The use of these three techniques enabled the researcher to obtain comprehensive, valid, and trustworthy data in examining the phenomenon under study.

The data analysis technique used was qualitative analysis with an interactive model consisting of data reduction, data display, and conclusion drawing. Data reduction was carried out by selecting and focusing on relevant data. Data presentation was provided in the form of descriptive narratives to facilitate understanding. Furthermore, conclusions were drawn gradually by considering patterns, relationships, and meanings derived from the analyzed data. Miles, Huberman, and Saldaña emphasize that qualitative data analysis is cyclical and interactive; therefore, researchers need to continuously verify the findings obtained (Miles dan Huberman, dkk, 2019). To maintain data validity, this study employed source and method triangulation techniques so that the research findings possess scientific credibility and validity.

RESULT AND DISCUSSION

This research produced findings through document analysis, observations, and interviews regarding management strategies to improve the quality of students' learning processes in the digital era at SDIT Nurul Hayah Ketanggungan Brebes. Broadly, the findings are divided into three main domains: (1) management strategies for strengthening the quality of students' learning processes in the digital era, (2) the reasons or foundations underlying the implementation of these strategies, and (3) the impact of the strategies on the quality of students' learning processes. These three domains are interconnected and form an adaptive learning management system responsive to digital developments. The findings also indicate a relationship among management factors, teacher competence, technology utilization, and the learning environment (Yogica, 2020). Thus, this study provides a comprehensive overview of the actual practices of digital-based learning management strategies in elementary schools.

Management Strategies for Strengthening Students' Learning Quality in the Digital Era

Initial findings indicate that strategies for strengthening the quality of students' learning processes are implemented systematically through learning reflection, initial assessment, analysis of learning outcomes, and the preparation of ATP (Teaching and Learning Objectives Flow). These steps are in line with David's view that strategies should direct resources toward achieving organizational goals (Fred R. David, 2019). SDIT Nurul Hayah Ketanggungan Brebes prepares these stages before the beginning of the new academic year so that the learning process becomes more contextual and focused on students' needs. This approach is also consistent with the perspective of the (Global Education Monitoring Report, 2024) which states that educational technology must be integrated pedagogically and contextually rather than merely functioning as a technical tool. Therefore, the implementation of strategies in this school reflects a directed and adaptive management pattern.

The directed and adaptive management strategy pattern is categorized into four main areas: planning, organizing, implementing, and evaluating learning. Dacholfany also emphasized that educational management in the digital era must adapt to technological developments and restructure the working patterns of learning organizations (Dacholfany et al., 2024). At SDIT Nurul Hayah Ketanggungan Brebes, these four domains are reflected in the preparation of teaching modules, the distribution of teachers' roles, the implementation of extracurricular, cocurricular, and extracurricular learning activities, as well as regular academic supervision. Therefore, the first finding demonstrates an interconnected cycle of management strategies ranging from planning to outcome control (Wijayanti & Wicaksana, 2023).

In practice, the school environment, which is relatively new with a limited student population, relatively young teaching staff, and facilities that adequately support digital learning, contributes to effective learning quality for students. The school is equipped with facilities such as classrooms, a library, an IPAS laboratory, LCD projectors, laptops, computers, and access to digital platforms that facilitate the learning process. A religious, cooperative, and education-conscious community environment also serves as important social capital in implementing learning strategies (Siti Nurjanah, 2026). These conditions indicate that the success of management strategies does not solely depend on the school's internal policies, but also on the support of the surrounding ecosystem. Therefore, the local context becomes a strengthening factor in implementing strategies to improve learning quality.

Table 1. Findings of Management Strategies for Strengthening the Quality of Learning Processes

Management Strategy Aspect	Main Findings	Source
Learning Planning	Strategies begin with reflection, initial assessment, learning achievement analysis (CP), and the preparation of ATP based on students' needs.	Teaching Modules
Resource Organization	The distribution of roles among the principal, teachers, and technological support facilities is carried out systematically.	KSP Documents
Program Implementation	Learning is implemented through intracurricular, cocurricular, and extracurricular activities based on projects and information technology.	KSP Documents
Evaluation and Control	Evaluation is conducted through academic supervision, teacher reflection, and periodic reporting.	Principal's Supervision Documents

Source: Data Analysis by the Researcher, 2026

The Importance of Management Strategies for Strengthening Students' Learning Quality in the Digital Era

The following findings indicate that the implementation of management strategies emerged as a response to the demands of the digital era and the changing learning needs of the 21st century. The OECD emphasizes that the quality of learning is greatly influenced by the availability of teachers who possess competencies aligned with new educational demands (OECD, 2023), while UNESCO reminds that the use of technology in education should be directed toward improving quality, access, and system management wisely (Global Education Monitoring Report, 2014). In this context, Nugroho et al. found that the use of digital technology in project-based learning for elementary school students can enrich the learning process for the digital native generation (Nugroho, Bayu Sapto; Rosyadi, 2024) At SDIT Nurul Hayah Ketanggungan Brebes, the motivation for implementing these strategies is reflected in the institution's intention to integrate technology, Islamic values, and contextual learning.

Therefore, the implementation of these strategies is not merely symbolic innovation, but rather a managerial response to digital educational transformation.

The interrelationship among the variables revealed in these findings indicates that management strategies, teacher competence, and technology utilization mutually influence efforts to improve the quality of learning processes. Susilowati emphasizes that teachers' digital literacy at the elementary school level plays an important role in strengthening pedagogical competence (Susilowati, 2025), while digital training programs can improve teachers' digital literacy. When teachers possess better pedagogical and digital readiness, learning becomes more interactive, directed, and adaptable to students' needs. At SDIT Nurul Hayah, this relationship is evident in the implementation of flexible learning models, the use of digital media, and the strengthening of teacher learning communities. Thus, the quality of the learning process emerges as the result of synergy among various elements rather than merely the consequence of a single factor.

This relationship becomes stronger because the school possesses an ecosystem that supports the implementation of digital and collaborative learning. School documents demonstrate partnerships with community health centres, regional libraries, art studios, financial institutions, and internet service providers, all of which broaden students' learning experiences. The school also utilizes the Rumah Pendidikan platform through Ruang GTK, Rumah Murid, Ruang Sekolah, Ruang Bahasa, and Ruang Pemerintah to manage data and support learning processes. This finding aligns with Na'imah's view that technology functions both as a learning media tool to support educational activities and as a means of developing soft skills, namely technology functioning as a learning environment to cultivate specific competencies among students (Khomarudin, 2020). Therefore, the interaction among strategies, resources, and technology operates effectively due to the support of a concrete system. This situation reinforces the idea that management strategies in the digital era require integration between internal school policies and external networks.

Table 2. Findings on the Importance of Management Strategies for Strengthening the Quality of Learning Processes

Management Strategy Aspect	Main Findings	Source
Demands of the Digital Era	Learning needs to be adaptive to technology and 21st-century educational demands.	Merdeka Curriculum Guidelines
Learning Quality	Strategies are required to improve learning effectiveness and student engagement.	School Report Card
Teacher Competence	Teachers need to improve their pedagogical digital literacy.	Interviews and Learning Community Activity Documentation

Source: Data Analysis by the Researcher, 2026

Implications of Management Strategies for Strengthening Students' Learning Quality in the Digital Era

The third finding indicates that management strategies have a direct impact on improving the quality of students' learning processes. The school implements differentiated learning,

project-based learning (Khomarudin, 2020), extracurricular activities, and the habituation of Islamic values to accommodate students' individual learning needs more personally. According to Nugroho et al., project-based learning supported by technology for elementary school students creates more active and contextual learning experiences (Nugroho, Bayu Sapto; Rosyadi, 2024). At SDIT Nurul Hayah Ketanggungan Brebes, these strategies are strengthened through teachers' professional development programs such as internal workshops, cross-phase Teacher Working Groups (KKG), and learning communities. Thus, the implications of these strategies are reflected not only in procedures but also in more meaningful learning practices.

Further implications of these strategies are reflected in the increased student activity, creativity, collaboration, and communication during the learning process. UNESCO reports that technology can expand access, inclusion, quality, and educational system management when implemented appropriately (Global Education Monitoring Report, 2024). In classroom learning, the integration of technology and project-based learning creates opportunities to develop the 4C competencies critical thinking, creativity, collaboration, and communication as well as students' digital literacy. This demonstrates that proper management can strengthen both learning outcomes and learning experiences. Therefore, the implications of the strategies implemented in this school are holistic and focused on student development (Wijayanti & Wicaksana, 2023).

The value and potential of these strategies lie in the emergence of a learning management model that can be replicated as a best practice in other elementary schools. Dacholfany et al. emphasize that educational management in the digital era requires organizational adaptation (Dacholfany et al., 2024), while Marmoah et al. show that consistent quality management can improve teachers' digital competence (Marmoah, Sri, 2024). The implementation of this model at SDIT Nurul Hayah Ketanggungan Brebes has the potential to ensure that technology continues to function as a pedagogical tool rather than becoming the ultimate goal of learning. These strategies also provide opportunities for continuous quality improvement through evaluation, collaboration, and strengthening teacher capacity. Therefore, the findings of this study possess both practical value and theoretical contributions to elementary education management in the digital era.

Table 3. Findings on the Impact of Management Strategies for Strengthening the Quality of Learning Processes

Management Strategy Aspect	Main Findings	Source
Student Engagement	Students become more active, creative, and collaborative.	Observation of PBL Activities
Learning Flexibility	Learning becomes more adaptive and contextual.	Learning Evaluation Meetings
Competency Strengthening	Improves 4C competencies and digital literacy.	Student Achievements

Source: Data Analysis by the Researcher, 2026

In this study, management strategy includes several main elements, namely goal formulation, environmental analysis, resource organization, program implementation, and outcome control (Dwi Syahputra, Rifaldi; Aslami, 2023). Goal formulation involves

establishing clear visions, missions, and objectives; environmental analysis includes identifying strengths, weaknesses, opportunities, and threats; resource organization requires the distribution of roles among principals, teachers, facilities, and technological support; program implementation relates to the operational execution of learning activities; and control is conducted through evaluation, reflection, and continuous improvement. Based on Porter's theory, management strategy can also be viewed as an effort to choose an optimal position by understanding competition and environmental changes, which in the educational context means that schools are able to adapt to the digital era so that learning quality remains effective, adaptive, and sustainable (Porter, 2020).



Figure 1. Management Strategy Cycle
Source: Data Analysis by the Researcher, 2026

The management strategy for strengthening the quality of students' learning processes in the digital era demonstrates that management efforts to improve learning quality at SDIT Nurul Hayah Ketanggungan Brebes are implemented through a series of structured steps, including initial reflection, diagnostic assessment, analysis of learning achievements, and the preparation of the Learning Objectives Flow (ATP). This indicates that learning quality is not built instantly, but rather through systematic planning based on students' needs. This condition aligns with the view that strategy is a directed effort to coordinate resources in achieving organizational goals (Fred R. David, 2019.). This principle is also consistent with the Total Quality Management (TQM) approach, which emphasizes continuous improvement in education (Sallis, 2014). Thus, these findings confirm that the initial assumption regarding the importance of strategic planning in improving learning quality is relevant to this study.

Furthermore, the findings indicate that management strategy is not merely an administrative framework, but rather a system that integrates all elements of learning. The utilization of digital platforms such as Rumah Pendidikan (Ruang GTK, Ruang Murid, and Ruang Sekolah) demonstrates that the strategy has expanded to include data management, teachers' professional development, and continuous learning monitoring. This is because educational quality is strongly influenced by system capacity and teachers' readiness to respond to change. This view is also supported by Dacholfany's research, which states that educational management in the digital era requires systemic organizational adaptation

(Dacholfany et al., 2024). Therefore, these findings reject the assumption that merely providing technology is sufficient to improve learning quality; rather, the effectiveness of the underlying management strategy is far more important.

The implementation of management strategies is driven by the demands of the digital era and the need to improve learning quality relevant to the 21st century. This means that the strategies implemented are not merely symbolic innovations, but responses to dynamic changes in the educational environment. UNESCO emphasizes that educational technology only has a significant impact when integrated pedagogically and contextually (*Global Education Monitoring Report 2023, Southeast Asia: Technology in Education: A Tool on Whose Terms? Summary (Ind)*, 2024). In addition, the OECD highlights that teachers' readiness and school leadership are key factors in the success of digital transformation in education (OECD, 2023). In the context of SDIT Nurul Hayah, internal factors such as students' characteristics, socio-cultural backgrounds, and teachers' readiness serve as the main foundations in formulating strategies. Thus, these findings strengthen the assumption that educational management strategies must be contextual and adaptive to actual needs in the field.

The implementation of these strategies is also driven by the need to strengthen human resource capacity in responding to digital transformation. This is reflected in the existence of workshops, learning communities, cross-phase Teacher Working Groups (KKG), and continuous academic supervision. Previous studies indicate that teachers' digital literacy significantly contributes to improving pedagogical competence (Susilowati, 2025). In addition, Marmoah found that educational quality management integrated with digital training can substantially improve learning quality (Marmoah, Sri, 2024). Therefore, technology functions as a supporting factor in improving learning quality, while the quality of human resources, particularly teachers, remains the key determinant of successful learning management strategies.

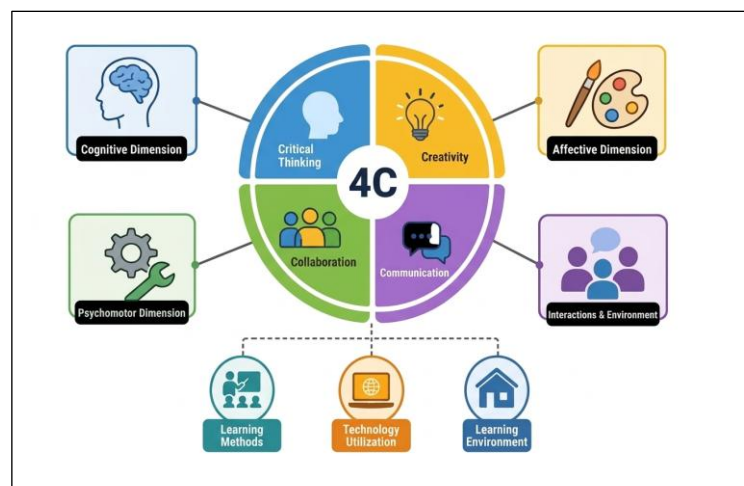


Figure 2. Management Strategy Cycle
Source: Data Analysis by the Researcher, 2026

The implemented management strategies have a direct impact on improving the quality of students' learning processes. This is reflected through the implementation of differentiated learning, project-based learning, outdoor activities, and the strengthening of students' digital literacy. Previous studies support these findings, showing that project-based learning improves

students' creativity, engagement, and critical thinking skills (Surmilasari et al., 2022). The use of technology in learning can also expand students' flexibility and access to learning opportunities. Thus, these findings indicate that appropriate management strategies are capable of transforming students' learning experiences into more active, contextual, and meaningful processes, while also proving that the assumption regarding the relationship between management strategy and learning quality has an empirical basis.

Overall, the results of this study indicate that a management approach focused on strengthening the quality of students' learning processes in the digital era possesses strategic value and can serve as a best practice model. An effective educational system is one that is capable of integrating policies, practices, and resources sustainably. Meanwhile, the use of technology without proper management may actually create inequalities in education. In this context, the strategies implemented at SDIT Nurul Hayah demonstrate integration among planning, implementation, and evaluation on a continuous basis. Therefore, these findings not only answer the research questions, but also provide theoretical and practical contributions to the development of educational management in the digital era. Thus, strategic management is proven to be the main factor in ensuring that digital transformation truly impacts the quality of students' learning processes.

CONCLUSION

This research reveals a major finding that would not have been visible without field research strengthening the quality of students' learning processes in the digital era is not primarily influenced by the existence of technology, but rather by directed, systematic, and contextual management strategies. At SDIT Nurul Hayah Ketanggungan Brebes, learning quality is formed through interconnected stages such as initial reflection, diagnostic assessment, analysis of learning achievement, preparation of ATP, distribution of resource roles, and regular supervision and evaluation. This finding confirms that educational digitalization will succeed when treated as a managerial process rather than merely the addition of digital tools. The theoretical framework and concepts used in this study fundamentally address the research problems. The concepts of management strategy, learning quality, Total Quality Management (TQM), and the utilization of educational technology provide a strong foundation for examining the relationship among school policies, teacher competence, and students' learning experiences. The qualitative method with a best practice design was also appropriate because it enabled the researcher to observe actual practices in depth and contextually. Through this approach, the study was able to explain not only what the school implemented, but also the reasons behind the chosen strategies and their impacts on students' learning processes. However, this study still has limitations because it was conducted in only one location; therefore, the findings cannot be directly generalized to other schools without careful consideration. In addition, the collected data mainly highlight managerial practices and their impacts qualitatively, without quantitatively measuring the extent to which each strategic element contributes to learning achievement. Therefore, future studies should compare several schools with diverse characteristics, adopt a mixed-methods approach, and examine in greater detail the influence of teacher competence, digital infrastructure support, and school culture on the quality of students' learning processes.

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