

Patterns of Principal Academic Supervision in the Digital Age at Madrasah Tsanawiyah

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ABSTRACT

In the digital era, the role of school principals as academic supervisors has evolved significantly. This study examines the academic supervision patterns employed by the principal of MTSN 5 Sleman, focusing on how digital technology has transformed the supervision process. A qualitative method with a descriptive approach was used to explore the supervision practices. Data were collected from the principal of MTSN 5 Sleman and three senior teachers with substantial experience in academic supervision. Observations, interviews, and document analysis were conducted to gather insights. The findings reveal that the principal's academic supervision has become more effective and efficient through the integration of digital technology, particularly the madrasah principal's academic supervision narration application. This application streamlines supervision processes, optimizes resource usage, and enhances both learning quality and teacher competence. By leveraging this technology, the supervision approach has shifted to better meet contemporary educational needs. The transformation of academic supervision through digital tools demonstrates significant potential for improving educational outcomes. The study highlights the practical benefits of such innovations, including time savings and enhanced teacher performance. It also emphasizes the importance of strategic technology integration in academic supervision practices. The use of digital technology in academic supervision at MTSN 5 Sleman represents a pivotal step in modernizing education management. These findings offer valuable insights for education professionals and policymakers aiming to develop effective supervision strategies and embrace technological advancements in education.

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1. INTRODUCTION

The rapid development of technology in today's digital era is transforming many aspects, including education. The digitization of learning involves technology in various aspects of education, such as supervision, teaching, learning and administration (Endrawati Subroto et al., 2023). In the

digital era, the use of technology in education supervision is needed to improve the quality of education (Ramadhan, 2024). Technology in educational supervision according to (Hakim, 2016) is an integrated process involving people, procedures, ideas, tools and organizational structures. This process is designed to analyze problems, plan, implement, evaluate and manage solutions to these problems involving all aspects of human learning.

Supervision is a process that is inseparable from educational activities. A quality educational institution can be obtained if supervision is also implemented properly. Supervision is a coaching step taken by school leaders to teachers (Rahman & Nursita, 2023). Nahrowi (2021) emphasizes that teachers, as implementers of education need supervision as a performance benchmark. The aim is to improve the teaching and learning environment by providing guidance and improving the learner's profession (Arikunto & Yuliana, 2019). However, the implementation of supervision is also problematic. According to (Nurastati, 2018), various problems certainly arise in the implementation of educational supervision in schools, especially the obstacles faced by principals and teachers as educators in schools. Therefore, solutions must be found immediately for all existing problems. Applying technology to academic supervision activities changes the school supervision process to be easier than before, effective, and efficient for principals to monitor and supervise teachers' teaching activities (Nugroho & Hidayati, 2023). Therefore, supervision technology can be considered as a solution to various educational problems that occur globally.

Supervision as a coaching program in schools if collaborated with technology, will certainly be able to facilitate the principal, who in this case acts as a supervisor, to run more effectively and efficiently (Herrin, 2023). Nugroho & Hidayati (2023) stated that principals can provide quick feedback to teachers to improve their quality. In addition, the use of technology can enrich the supervision process and make it easier for supervisors to map problems, implement, evaluate, and follow up on teacher problems (Nasution et al., 2023). Furthermore, the implementation of IT-based supervision is considered very effective and efficient because it provides convenience for supervisors (Zarkasi, 2018).

Furthermore, the development of technology in the digital era also forms a new pattern in academic supervision because it affects the characteristics of supervision patterns supported by the media equipment and facilities used (Herrin, 2023). In the field of supervision, principals who act as supervisors use several supervision patterns to fulfill their responsibilities. The pattern of academic supervision can be understood as an important element that functions as a conceptual framework or model that guides the process of implementing supervision activities (Makawimbang, 2021). Therefore, it is important to implement academic supervision patterns in a consistent and structured manner, which will affect the inputs that will be produced. The pattern of academic supervision consists of planning, implementation and evaluation activities in the learning process. By using a methodical and planned supervision system, teachers can effectively integrate and utilize their various skills in the teaching and learning process (Lorensius et al., 2022).

Madrasah Tsanawiyah Negeri 5 Sleman, located in the Sleman district, is recognized for its outstanding students and a majority of certified educators, guided by a principal known for exemplary leadership. As an educational institution, the madrasah has embraced innovation, not only in curriculum development and infrastructure but also in academic supervision, to keep pace with technological advancements in the digital era. A significant initiative in this regard is the development of a digital-based platform called the Madrasah Head Supervision Application. This platform was designed to drive digital transformation in madrasahs and enhance integrated quality management.

The success of education systems hinges on the quality of the learning process. Effective academic supervision, supported by tools such as the Madrasah Head Supervision Application, plays a critical role in improving educational outcomes and fostering effective teaching practices. Field observations indicate that academic supervision at Madrasah Tsanawiyah Negeri 5 Sleman has been implemented effectively. However, challenges remain, as some teachers have yet to fully maximize their potential in terms of planning, innovation, and creativity in teaching, aligning with desired teacher competencies.

Additionally, interviews with principals reveal that time constraints often hinder their ability to perform supervisory duties comprehensively.

Academic supervision by principals is crucial for guiding teachers in improving the learning process. Effective supervision requires principals to foster trust, stimulate professional collaboration, and provide targeted coaching to address teaching challenges (Nurohiman, 2016). While previous studies have explored the influence of digital technology on academic supervision, research specifically examining the patterns of supervision applied by principals in the digital era remains scarce. This study addresses this gap by exploring how principals can implement effective academic supervision patterns in the digital age, combining conventional methods with digital tools to enhance the supervision process.

2. METHODS

This research was conducted at MTSN 5 Sleman, a madrasah selected for its innovative approach to integrating technology into academic supervision, setting it apart from other madrasahs in the Sleman district. A descriptive research method was employed, utilizing a qualitative approach to objectively examine and present findings on the effectiveness of the principal's academic supervision in the digital era (Sugiyono, 2022). The descriptive method aims to systematically depict observed situations or events, providing a comprehensive analysis of the studied phenomenon (Arikunto & Suharsimi, 2019). Furthermore, qualitative research, as defined by Moleong (2017), seeks to understand and interpret experiences by describing them in words within their natural context while applying various scientific methodologies. This approach allows for a deeper exploration of the principal's supervisory practices, particularly in adapting to technological advancements in educational administration.

The subjects in this study are the principal of MTSN 5 Sleman as the school leader who serves as the main supervisor and 3 senior teachers who have experience and knowledge of the academic supervision process. The criteria for selecting participants were based on their experience in supervision, availability to participate, and variety of backgrounds and experiences. Concrete data collection instruments are needed to facilitate researchers in obtaining data in schools. Data collection methods include in-depth interviews, direct observation and document analysis. In-depth interviews used open-ended questions to obtain in-depth data. Meanwhile, observation activities were carried out directly by observing the academic supervision process. This research uses structured observation, which refers to a methodical approach in designing and determining what will be observed, as well as the specific time and location of the observation. Meanwhile, document analysis was carried out by analyzing documents such as supervision instruments and supervision applications and teacher records. Data analysis in this study used theme and category analysis, content analysis, narrative analysis, and data interpretation, which gave meaning to the results of the data analysis. The steps taken to ensure the validity and reliability of data, are triangulation techniques to validate the results of research where researchers get sources from various sources of the same data such as observation, interviews, and documentation (Sugiyono, 2022).

3. FINDINGS AND DISCUSSION

The findings of this study reveal that academic supervision activities at MTSN 5 Sleman align with the provisions outlined in the Decree of the Minister of Religion No. 624 of 2021, which serves as a guideline for learning supervision in madrasahs. These activities encompass a comprehensive approach, including coaching, mentoring, training, consulting, assistance, and monitoring.

Yuliana (2022) emphasizes that academic supervision involves guiding teachers to enhance and develop the quality of the learning process. Similarly, Palimbong (2022) highlights that the primary objective of academic supervision is to address challenges encountered during learning activities and to improve teacher effectiveness. These perspectives underscore the critical role of academic supervision in fostering professional growth and advancing the overall quality of education.

Along with the times in this digital era, academic supervision activities at MTSN 5 Sleman are influenced by digital technology. The results of observations in several schools in Sleman Regency, it shows that not many schools have innovated digital technology in academic supervision activities after the Covid-19 pandemic. MTSN 5 Sleman is one of the digital madrasahs that has implemented academic supervision by utilizing technology. In the concept of digital madrasah, digital devices are not the goal; rather, they are a supporting tool so that teaching and learning activities become more effective and efficient. Referring to the observation results obtained, the madrasah has utilized technology in every activity starting from the teaching and learning process, making lesson plans, LKPD, attendance, to the process of academic supervision activities.

Furthermore, utilizing digital technology in academic supervision activities will certainly affect the pattern that will be applied by the principal in the academic supervision process. The implementation of the academic supervision pattern of the principal of MTSN 5 Sleman is carried out with the help of technology. Supervision if collaborated with technology will certainly make it easier for principals who in this case act as supervisors to run more effectively and efficiently. Effective academic supervision will facilitate teachers' understanding in the assessment and implementation of learning, so that they can improve their teaching competence in educational activities (Pangestuti & Mustofa, 2024).

Academic supervision of MTSN 5 Sleman is carried out systematically with clear and planned objectives and is carried out with three supervision patterns, namely: a) planning; b) implementation, to collect data or information; and c) evaluation based on the results of data analysis and follow-up to improve the quality of learning. Of the three patterns of academic supervision mentioned above, in the preparation process the principal always involves teachers through socialization activities both offline and online. This is done to establish good communication and teachers can prepare themselves well before the implementation of academic supervision activities.

3.1. Planning

The planning stage is the stage where the principal of MTSN 5 Sleman designs the academic supervision to be carried out. Careful planning will serve as a guideline for the principal to ensure that the activities are carried out effectively and efficiently. From the interview with the principal, we obtained information that the academic supervision planning is carried out in several stages. These stages include making a supervision program, submitting a circular letter, making a supervision schedule, submitting supervision instruments, and socialization. The purpose of this preparation is to improve teacher readiness and ensure supervision activities run well. Preparation or planning stage of academic supervision.

- a. Making a Supervision Program: The principal develops a supervision program that covers three aspects, namely planning supervision, implementation supervision, and assessment supervision.
- b. Circular Letter Delivery: The principal submits a circular letter valid for one semester, which includes the supervision schedule and supervision instruments.
- c. Making a Supervision Schedule: The principal makes a supervision schedule that matches the teachers' teaching schedules.
- d. Submission of Supervision Instruments: The principal presented two supervision instruments, one from the Ministry of Religious Affairs and one designed by the principal.
- e. Socialization: Principals conduct socialization through office meetings and social media to ensure teachers are aware of the supervision program planning.

The planning stage of academic supervision at MTSN 5 Sleman has been effectively implemented. The principal has developed a comprehensive supervision program and conducted socialization efforts to ensure that teachers are well-informed about the program's objectives and processes. This approach facilitates the smooth execution of academic supervision activities and contributes to enhancing the quality of learning within the school.

The principal's actions in planning, organizing, and communicating the supervision program demonstrate a commitment to fulfilling their roles and responsibilities. This aligns with the view of Andriani and Supriana (2023), who assert that principals are responsible for planning their supervision programs, implementing and evaluating them, and determining appropriate follow-up actions based on the evaluation outcomes.

3.2. Implementation

From the results of observations and interviews, the implementation of academic supervision carried out by the principal of MTSN 5 Sleman appears to have been running and implemented in accordance with the program. There are 2 stages of supervision carried out by the principal, namely: supervision of learning process planning and supervision of learning process implementation.

Supervision of learning planning is the first stage carried out by the principal of MTSN 5 Sleman, which is intended to check the administration and supporting facilities for learning, which includes several types of administrative files. The principal further stated:

"Checking the readiness of lesson plans (RPP) prepared by teachers, I conduct direct meetings with teachers personally according to the schedule. Then I look at the lesson plans, and then if the teacher's lesson plan is in accordance with the SOP, I ask the teachers to upload it if it is not appropriate, it is hoped that they will immediately know where the mistake is and then immediately correct it. Then I put the results of the observation into the application in the form of a narrative and that is the result of the observation."

Furthermore, supervision of the implementation of the learning process, this process is carried out by observing learning activities directly into the classroom in the situation and learning areas that have been planned by utilizing the Madrasah Principal's Academic Supervision Narrative application as a tool in recording data observation results. This is in accordance with what the principal said that:

"At the time of KBM supervision I was in the classroom, usually I was behind for two hours full of direct observation by bringing the supervised teacher's lesson plan. Then I see whether the teacher has used the model he wrote in the lesson plan, then in the assessment whether it is in accordance with the indicators to be achieved. So the implementation of this supervision is manual, but the results of data analysis from the implementation of supervision are recorded in digitized form."

In line with the results of an interview from one of the teachers who said that:

"The principal is in the class when I teach and I submit the lesson plan for teaching that day then the principal observes what I do in the teaching process starting from the opening core to the closing and the principal sees the school attendance."

Based on document analysis, the information obtained is that the aspects observed by the principal in the implementation of the teaching and learning process by teachers in the classroom are preliminary activities in the form of building a religious attitude, namely opening face-to-face meetings with greetings and prayers, conveying the steps and stages of learning, building a pleasant atmosphere to start learning, showing inspirational videos related to the material, building communicative with students, forming discussion groups and giving appreciation to students. The suitability of material delivery with learning objectives, the ability to implement the material in an orderly and sequential

manner, to the closing and assessment.

Based on the results of observations, interviews, and document analysis, it is concluded that the implementation stage of academic supervision at MTSN 5 Sleman is still primarily conducted through class visits. However, the principal utilizes a digital application for processing and analyzing supervision data. Academic supervision is carried out to identify teachers' strengths and areas for improvement during the teaching and learning process. Through data analysis and observations, the principal evaluates teacher performance, provides constructive feedback, and formulates follow-up plans to support the professional growth and development of the teachers involved.

3.3. Evaluation

The evaluation of supervision activities by the principal of MTSN 5 Sleman takes place after the completion of classroom learning supervision. The principal utilizes the supervision results, including observations, recommendations, and follow-up plans, which are systematically recorded in the Madrasah Principal's Academic Supervision Narrative Application, as the basis for evaluation.

Following this, the principal communicates the findings and follow-up actions to the supervised teachers during a dedicated meeting. These meetings are conducted to provide constructive feedback through interviews and coaching techniques. During the discussions, the principal emphasizes the strengths and achievements observed, encouraging their continued development. Additionally, areas requiring improvement, such as challenges in material delivery, are addressed with specific recommendations and corrective measures. These follow-up actions are documented and shared in the form of hard copies for reference.

The principal employs effective communication and a personalized approach, fostering a positive and motivational environment. By offering both individual and cumulative encouragement, the principal aims to inspire continuous improvement and enhance the overall quality of teacher performance and student learning outcomes.

The coaching patterns implemented by the principal of MTSN 5 Sleman include both direct and indirect coaching approaches. Direct coaching focuses on specific issues requiring immediate attention based on the results of supervision analysis. This type of coaching addresses key aspects such as the use of learning support tools, the integration of information technology (IT) in teaching, the alignment of barcodes with the expected content, the consistency of classroom activities with the lesson plan, and the teacher's role in managing and engaging student performance in the classroom. These points are communicated to teachers in hardcopy format and are delivered through a supportive and collaborative guidance approach, fostering a positive relationship between the principal and the teachers.

Indirect coaching, on the other hand, is designed to address broader areas requiring improvement and long-term development. This involves the principal initiating programs aimed at enhancing teacher competence and addressing systemic issues identified during the supervision process. By combining both coaching methods, the principal ensures a comprehensive and effective strategy for supporting teacher growth and improving the quality of education at the madrasah.

Guidance and supervision carried out by the principal of MTSN 5 Sleman is expected to improve the quality of learning. In addition, with guidance and supervision, the learning process carried out by teachers can be controlled properly. Next, the follow-up targets from the evaluation results and supervision observations for all teachers will be determined in order to meet the expected teacher competency development targets.

The purpose of the MTSN 5 Sleman supervision follow-up program is to inventory the weaknesses and strengths of the activity program in the madrasah and to find out the materials and methods of coaching needed to be right on target. With the results of the analysis, supervisor notes and feedback can be utilized to develop teacher teaching skills or improve teacher professionalism. The findings and assessments that have been analyzed are made into conclusions as a basis for further coaching. Coaching is carried out by the principal by facilitating all teacher needs to improve teacher competence

such as holding workshops, training & technical guidance. So in addition to the school demanding teachers to always develop their competence, the principal also facilitates all the needs of the teachers.

The implementation of academic supervision must be conducted in a systematic, well-planned, and sustainable manner to achieve its intended goals. It should be organized in stages, carried out routinely, and adhere to a predefined schedule to ensure consistency and effectiveness.

The digital era offers numerous opportunities for advancements in education. Technological innovations have brought significant benefits, including in the domain of academic supervision. With the integration of technology, academic supervision can be enhanced through various digital tools and platforms, making supervision activities more efficient and impactful. These advancements enable principals and educators to leverage technology to streamline processes, monitor progress, and improve overall educational outcomes.

In the digital era, the use of technology in supervision is needed to improve the quality of education. The use of technology in academic supervision opens a gap for school creativity in creating software or software systems that are used when this process is carried out. This program or software can be applied and seen for its reliability or validity. So that the device helps in schools, it can even be further marketed or used by other schools that do not have technology experts in its manufacture (Setiawan et al., 2024). Technology in academic supervision is a process that must be taken by school principals in carrying out academic supervision in the form of learning, both inside and outside the classroom by applying digital technology tools and applications/utilization (Akhyak, 2022). Various technological devices that can be used to carry out supervisory tasks such as Google Forms are considered very effective and efficient because they are considered to have several advantages (Kasmawati, 2020). Then the research Meika (2021) explained that academic supervision activities through the Zoom Meeting/Google Meet, WhatsApp, and Google Form applications made the teaching performance of teachers at public junior high schools in the Cicendo sub-district of Bandung City during the Covid-19 Pandemic in the very good category.

Based on interview data with the principal, it shows that in the implementation of supervision, MTSN 5 Sleman uses the Madrasah Head Academic Supervision Narrative platform or application which is an innovation and original product of the school that was used 4 years ago. The principal of MTSN 5 Sleman innovated in making the Madrasah Principal's Academic Supervision Narrative application to make it easier for school principals to conduct academic supervision activities such as recapitulation and input of the results of academic supervision activities, which include teacher administration data collection, supervision planning, learning supervision, assessment supervision and teacher data. For example, supervisors during class visits no longer use paper and pens for their supervision results, they just bring a laptop which includes all the necessary supervision data. This means that principals can collect supervision data in real-time, and this means that the performance reporting process in supervision activities has shifted from manual to digital.

In line with the opinion of Purwati & Hakim (2021) that the use of technology in supervision activities is a form of renewal in the implementation of learning supervision carried out by supervisors. In addition, the principal's role as a supervisor is to provide constructive feedback and guide teachers in planning and implementing better teaching strategies.

In accordance with what was conveyed by one of the teachers, that:

“the use of technology in academic supervision also turns out to have 2 positive consequences, first, I as a teacher can be evaluated for performance, while second, teachers will be more skilled in using digital-based media”.

This is in line with what was revealed by (Fransyaigu et al., 2024) that the results of this activity not only improve teachers' digital skills, but also have an impact on teacher creativity and innovation in producing digital assessment instruments, which can affect cognitive learning outcomes, process learning outcomes, and students' critical thinking skills.

The analysis reveals that the Principal's Academic Supervision Narrative application at MTSN 5

Sleman utilizes the MS Office 365 A1 series platform, accessible through the official website of MTS Negeri 5 Sleman (mtsn5sleman.sch.id). Data related to academic supervision, managed by principals and supervisors, is recorded in Microsoft Excel for ease of use. The application is specifically designed to cater to academic supervision needs with an intuitive interface, ensuring that principals and supervisory teams can operate it efficiently.

This application includes features such as teacher administration records for supervision, supervision schedules, and a collection of academic supervision instruments. These instruments encompass observation results, recommendations, and plans for improvements and follow-ups. Furthermore, the Madrasah Principal Supervision Narrative application is versatile, not limited to a specific school, and can be adapted for use by other institutions, with supervision instruments customizable to meet the unique requirements of each school.

Interviews with teachers highlight that the principal also organizes online training and webinars to support continuous teacher development. Initiatives such as MGMP sessions, workshops, and similar activities aim to enhance educators' digital literacy. This aligns with Saleh and Efendi (2023), who emphasize that digital literacy is vital for improving teacher professionalism. Methods such as self-learning, webinars, virtual conferences, collaborative networks, digital applications, online certifications, and digital portfolio development are pivotal in advancing teacher competence in the digital age.

To ensure broader adoption and sustainability, further development of this application is necessary. This will require additional time, meticulous planning, and concerted effort to achieve successful implementation. The application currently used by the principal of MTSN 5 Sleman exemplifies the integration of technology in academic supervision.

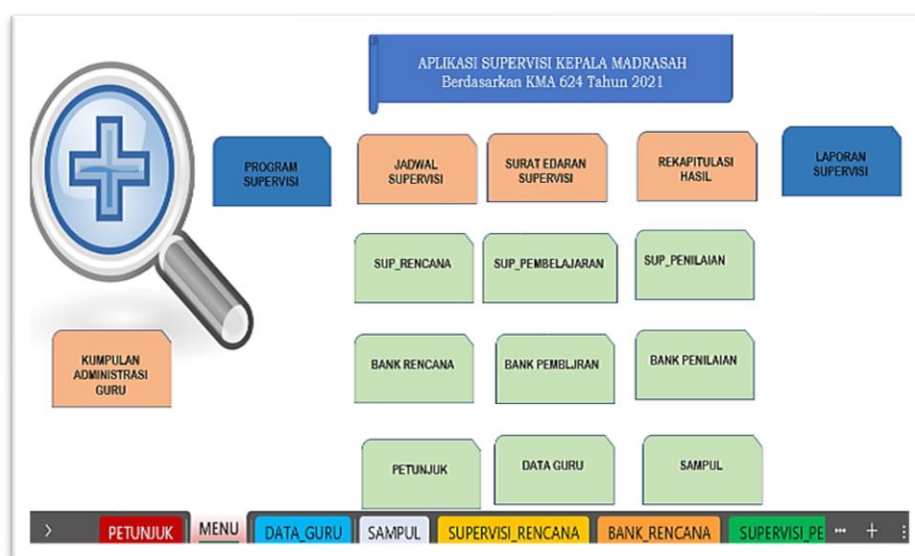


Figure 1. Application of Madrasah Head Academic Supervision Narrative

Below are the stages of operating the madrasah head's academic supervision narrative application as follows:

- a) Fill in the teacher data and supervisor data on the worksheet: data
- b) The worksheets of each group are distinguished by color
- c) To fill in the results of observations and recommendations, see bank_plan, bank_learning and bank_assessment.

- d) When filling in the planning supervision worksheet, the guideline is bank_plan, when working in learning supervision, the guideline is bank_learning and when working in assessment supervision, the guideline is bank_assessment.
- e) Fill in the number that corresponds to the observation results according to the group
- f) Observation and recommendation sheets are printed separately with follow-up supervision results.

By using the guideline as a reference to operate the madrasah head's academic supervision narration application, supervisors will find it easier to use and will improve their performance.

Specifications and impacts of the Madrasah Head Supervision Narrative application in academic supervision activities:

- a) Data can be updated in realtime when the principal wants to conduct supervision.
- b) Data from this application can be accessed on smartphones and can be downloaded in Word or PDF form so that it is possible to be utilized for sharing and used as a report on the results of supervision.
- c) Make it easier for school principals to input observation data.
- d) Principals during classroom supervision activities no longer need to bring all teacher learning tools in hardcopy form but can access these documents via a laptop.
- e) Less paper.
- f) Save time.
- g) Teachers can quickly obtain and identify the results of supervision activities ranging from strengths and weaknesses, what needs to be improved and repaired, as well as recommendations and follow-up.
- h) Makes it easier for the principal and team to identify problems, implement solutions and evaluate progress in dealing with teacher-related issues.
- i) The application can be easily used.

Utilizing the narrative application for academic supervision in the digital era has brought significant positive changes to the supervision activities conducted by principals and has also enhanced teacher performance. However, alongside these benefits, some challenges have been identified. These include the reliance on a stable internet connection for the application to function effectively and the limited technological skills among some teachers, which can hinder optimal use. Given these challenges, principals, as school leaders and supervisors in the digital age, must be well-versed in the importance of digital technology in education. They are encouraged to prioritize the integration of digital tools as a strategic effort to improve teacher performance through more effective academic supervision practices.

4. CONCLUSION

This study concludes that the principal's academic supervision pattern at MTSN 5 Sleman has become more effective and efficient through the integration of digital technology, particularly the Madrasah Principal's Academic Supervision Narration Application. The application simplifies supervision processes, conserves time and resources, and enhances the quality of teaching and teacher competence. The academic supervision pattern encompasses three key stages—planning, implementation, and evaluation—all supported by digital tools. The findings underscore the pivotal roles of principals and teachers in leveraging these digital applications to improve the quality of education. Policymakers are encouraged to establish frameworks that promote digital technology in

academic supervision, while principals should strategize its optimal use, and teachers must develop their digital competencies to support effective learning.

However, this study is limited by its focus on a single institution, MTSN 5 Sleman, restricting the generalizability of its findings to other schools. Future research is recommended to broaden the scope by including a more diverse sample of schools in Sleman and Central Java. Comparative studies between schools that adopt digital academic supervision and those that do not would yield deeper insights into its effectiveness and overall impact, contributing to strategies for enhancing the quality of education through digital innovation.

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