



## Enhancing Academic Supervision with Digital Solutions: A Practical Evaluation of a Teacher Performance App in Madrasah

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### ABSTRACT

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This study aims to describe the design and assess the level of practicality of using a teacher performance assessment application in madrasahs as a digital solution that can improve efficiency, objectivity, and transparency in the academic supervision process. The approach used in this study is a quantitative descriptive method with an evaluative component, where data are collected through observation, documentation, and the distribution of questionnaires. The application consists of four integrated dashboards, specifically designed for principals, assessors, teachers, and students. Each dashboard is designed according to the function of its users, such as setting supervision schedules, filling out digital assessment sheets, uploading documents, and evaluating the learning process by students. The results of the practicality test showed a level of practicality of 95% for principals, 98% for assessors, 98% for teachers, and 97% for students, all of which are in the "very practical" category. These findings indicate that this application is practical and easy to implement in the madrasah school environment. This study provides implications that the use of teacher performance assessment applications can improve efficiency and transparency in the academic supervision process in madrasahs. In addition, this application also encourages fairness and equality in teacher performance evaluation, which can ultimately contribute to improving the quality of education in madrasahs.

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## INTRODUCTION

Teachers are a crucial element in the education system, playing a central role in determining the quality of learning and student success (Hamzah et al., 2024; Agus et al. 2025). Therefore, improving the quality of education cannot be separated from efforts to improve teacher performance (Rosliani, 2023). One

important instrument in supporting this improvement is the Teacher Performance Assessment (TPA), which serves to identify the level of teacher professionalism and provides the basis for continuous coaching and development (Ministry of National Education, 2010).

Along with the dynamics of change in the world of education, teachers are required to continually adapt to various challenges, such as shifts in curriculum and technological advancements (Fatmawati, 2021). However, the manual implementation of PKG still faces various obstacles, including slow processes, high administrative burdens, and minimal follow-up (Sembiring & Kurniawan, 2022). This shows the need for a more effective and adaptive supervision approach to developments in the era.

Academic supervision is a form of professional coaching that provides technical support to teachers in implementing the learning process (Rusdiman et al., 2022; Sugiar et al., 2024). The goal is to improve teacher competence while improving the quality of learning (Merdekawaty & Andriani, 2023). Law Number 20 of 2003 concerning the National Education System emphasizes that education personnel, including principals and supervisors, have the responsibility to carry out supervision to ensure the quality of the learning process (Article 39, paragraph 2). Adequate supervision significantly contributes to creating a conducive learning environment and supporting the sustainable development of teacher professionalism. To support the successful implementation of academic supervision, principals require instruments that can serve as a reference for coaching in the schools they lead (Innah et al., 2023; Thohir; 2024). This is in line with the mandate of the Minister of Religion Regulation (PMA) Number 58 of 2017 concerning the Head of Madrasah, which stipulates that the head of madrasah is responsible for ensuring that the education process is conducted according to national education standards. One of the primary tasks mandated is to provide academic supervision, which involves guiding, monitoring, and evaluating teacher performance throughout the learning process. This supervision aims to enhance teacher competence, encompassing pedagogy, professional development, and learning innovation. The development of information and communication technology (ICT) presents significant opportunities to address the challenges of conventional supervision, particularly in terms of efficiency and accuracy. One of the innovations that has developed is the use of digital-based teacher performance assessment applications. This application enables a more systematic, documented, and easily accessible evaluation process (Wahyudi, 2020). Digitalization in the world of education also supports a faster, more accurate, and more transparent academic supervision process (Bucăța et al., 2024; Asrani, 2024).

In line with the mandate of Law Number 20 of 2003 concerning the National Education System, which emphasizes the importance of supervision in improving the quality of learning, MTsN Kota Palopo has developed a web-based teacher performance assessment application. This application is designed to facilitate the involvement of principals, assessors, teachers, and students in the assessment process through their respective dashboards.

However, the results of interviews with the principal of MTsN Kota Palopo revealed that the implementation of academic supervision still faces several obstacles. These obstacles include aspects of administration, preparation, implementation, and follow-up that are not yet optimal. Although schools already have supervision instruments, they are still manual and not fully comprehensive (Alam, 2021). Therefore, a digital-based supervision instrument is needed as a solution that can facilitate principals in carrying out effective coaching.

One of the innovations offered is the development of professional domain-based applications, such as <https://supervisiakademikmtsnnkotapalopo.org/>. The use of paid applications offers various advantages, ranging from a professional and credible appearance to flexibility in customization, integration of advanced features such as SEO plugins and analytical tools, and enhanced security support. Thus, investing in digital applications is a strategic step in building a professional and adaptive supervision system that keeps pace with technological developments.

Other studies also show that digital technology can increase the speed and accuracy of supervision (Djajadi et al., 2024). In addition, the development of digital learning, such as e-learning and blended learning, encourages the need for supervision instruments that can assess teachers' abilities in utilizing technology (Saleh & Arbain, 2021). Digital-based teacher performance assessment applications enable supervisors to make observations, record data, and provide feedback efficiently and in real-time. For this application to function optimally, it is essential to adhere to the principles of adequate supervision and integrate suitable technology. Assessment instruments must cover various aspects of teacher performance, including pedagogical, personality, social, and professional aspects (Kusumaningrum et al., 2024). In addition, the application must also consider accessibility for all teachers, including both civil servants and non-civil servants, with a user-friendly interface as a means of promoting fairness and efficiency (Alam, 2021).

This study aims to describe the application design, measure its validity, and assess the level of practicality of its use at MTsN Palopo City as an innovative solution in implementing digital-based academic supervision. The advantages of this application lie not only in its ability to automatically record and analyze

teacher performance data, but also in its ability to provide real-time feedback and encourage collaboration between teachers and supervisors (Novelita et al., 2023) Academic supervision plays an important role in improving teacher professional competence in order to achieve educational goals. Therefore, the use of appropriate teacher performance assessment applications will significantly support the optimization of the learning process through the effective and sustainable use of technology.

## **RESEARCH METHOD**

This study employs a descriptive quantitative approach with an evaluative method, aiming to describe and assess the level of practicality of using teacher performance assessment applications at MTsN Palopo City. The study was conducted at MTsN Palopo City, involving research subjects that included the principal, assessors, teachers, and students. This study involved the entire population directly involved in the application's implementation, so a saturated sampling technique was used. Since the population was relatively small and could be comprehensively sampled, all members of the population were included in the study.

Data collection techniques were employed through three primary methods: observation, documentation, and questionnaires. Observation was used to directly see the process of using the application by users, while documentation was used to obtain secondary data in the form of assessment result documents. Questionnaires were distributed to respondents to measure perceptions of the practicality of the application being developed. The questionnaire instrument was compiled based on practicality indicators and had been validated by experts.

Data analysis techniques were employed both quantitatively and descriptively, using percentages to assess the level of practicality among each group of respondents. The questionnaire data were analyzed using the average score formula and categorized into four criteria: very practical, practical, reasonably practical, and impractical. The results of this analysis serve as the basis for evaluating the effectiveness of application implementation in supporting digital-based academic supervision processes.

## **RESULT AND DISCUSSION**

### **Result**

The results of this study were obtained from various data collection techniques, including interviews, observations, distributing questionnaires, and documentation studies conducted at the State Junior High School of Palopo City. Data were collected from the principal, assessors, teachers, and students who

were directly involved in the use of the teacher performance assessment application.

### Teacher Performance Assessment Application Design

The teacher performance assessment application was developed as a digital solution to the implementation of academic supervision which has been carried out manually at MTsN Palopo City. This application is equipped with several login dashboards for admins/principals, assessors, teachers, and students. Each dashboard is designed so that users can access data, fill in assessment instruments, and obtain feedback efficiently and documented.

The main features in the application include:

- a. Principal Dashboard: To manage assessment periods, monitor supervision implementation, and view teacher performance progress.
- b. Assessor Dashboard: To fill in supervision instruments, give grades and print reports.
- c. Teacher Dashboard: To upload evidence of performance and monitor assessment results.
- d. Student Dashboard: To provide learning assessments based on their experiences.

With this design, the application supports a transparent, real-time, and collaborative supervision system.

### Initial Analysis of Needs and Tasks

The results of interviews with principals, assessors, and teachers show that academic supervision has been running so far, but using conventional instruments that do not reflect real needs. The manual format makes it difficult to record, evaluate, and report. Digital applications are here to overcome these obstacles. Assessor tasks, such as observation, data recording, to reporting, can be done faster and more accurately through the system. Teachers also get faster and clearer feedback. This application provides space for reflection and data-based professional development.

### Application Validation

Table 1. Results of Validity Tests Conducted by Three Experts

Respondent	Percentage	Category
Digital Expert	95%	Very Valid
Linguist	92%	Very Valid
Supervision Expert	92%	Very Valid

These results indicate that the application is feasible to use in terms of content, language, and technical aspects.

## Practicality Test

Table 2. Results of the Practicality Test

Respondent	Percentage	Category
Principal	95%	Very Practical
Assessor	98%	Very Practical
Teacher	98%	Very Practical
Students	97%	Very Practical

All users stated that the application is easy to access, reduces administrative burden, speeds up the assessment process, and facilitates easier report preparation. Student participation, although not in the context of formal supervision, has been shown to help provide an overview of the quality of learning from the students' perspective.

## Discussion

This application aligns with the principles of the Technology Acceptance Model (TAM), which emphasizes ease and usefulness as key factors in technology adoption. The application also reinforces the view that digital information systems can enhance efficiency, transparency, and the quality of decision-making (Biswas et al., 2024; Erica, 2024). The implementation of this application not only optimizes academic supervision but also fosters a collaborative culture of quality among principals, assessors, teachers, and students. The use of this technology significantly reduces manual constraints, allowing supervision to be more responsive to learning dynamics (Gorni et al., 2024).

The design of this application also prioritizes aspects of data security and user access rights. Each user can view and access information only according to their role in the system, ensuring data protection and confidentiality among users. Throughout the data collection process, the application automatically records login times and user activities, creating an audit trail that supports transparency and supervision. This is important to increase trust in the results of the supervision carried out.

The increased engagement of teachers in the supervision process reflects a positive shift towards a more proactive and reflective approach to professional development. Teachers are now more inclined to take ownership of their performance, actively seeking feedback and making improvements based on the data provided by the application. This heightened involvement not only strengthens their professional growth but also contributes to the overall enhancement of teaching quality within the institution (Isa et al., 2024).

The validity of the application is strengthened by testing conducted by experts with relevant scientific backgrounds and experience in the fields of application development, language, and educational supervision. The feedback provided is also used as a basis for improving the appearance and functionality of the application.

The high practicality obtained from the results of trials on various users shows that this application can not only be used functionally, but is also well-received by users. This is an indicator that the system has met the expectations of its users, as the system's ability to generate automatic reports enables principals to respond more quickly to teacher development needs and formulate data-based coaching policies. This application is a strategic tool in making fast and accurate educational decisions. As part of strengthening the culture of quality in madrasas, the use of teacher performance assessment applications is also expected to be part of a continuous evaluation system that is not only carried out periodically, but is also adaptive to changes in policies and challenges of digital education.

Additionally, the application promotes a culture of continuous improvement by providing real-time feedback and performance tracking, empowering teachers to take ownership of their professional development. With instant access to performance data and feedback from both assessors and students, teachers are better equipped to identify areas for improvement and adapt their teaching strategies accordingly. This continuous cycle of assessment and reflection not only enhances the quality of education but also encourages a growth mindset among educators. Furthermore, the application's adaptability to changing educational policies and its alignment with digital trends ensure its sustainability and relevance in the evolving educational landscape. By leveraging this technology, madrasas can ensure that academic supervision is both forward-thinking and in line with modern educational needs.

## CONCLUSION

The teacher performance assessment application developed at MTsN Kota Palopo has proven to be a practical digital innovation in improving the quality of academic supervision. This application is designed with the principles of ease of use, efficiency, and transparency of information, and is integrated into the education management information system. The main features of the application include four dashboards: Principal, Assessor, Teacher, and Student. Each dashboard has a specific role that supports the smooth running of the assessment process. Student involvement in providing feedback also strengthens the validation of learning, although it is not part of formal supervision.

Validity tests conducted by experts yielded highly valid results, with scores of 95% from digital experts and 92% from language experts, as well as a supervision assessment. Likewise, the results of the practicality test showed a very high level of practicality, specifically 95% (principal), 98% (assessor), and 98% (teacher). This application can be used by all teachers regardless of their employment status, reflecting the principle of fairness in evaluation. Overall, this application not only simplifies the administrative process but also becomes a means of transforming a professional work culture based on technology and data, supporting a structured, efficient, and sustainable supervision system.

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