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Analysis of Management Information System Utilization for Learning Outcome Evaluation and Student Welfare Enhancement

M Kholilur Rohman✉
Universitas Islam Negeri Maulana Malik Ibrahim, Malang, East Java, Indonesia

Abstract

This study aims to analyze the use of Management Information Systems (MIS) in evaluating learning outcomes and its implications for student welfare in Madrasah Aliyah. This study departs from the challenges faced by teachers and students in managing academic data and learning evaluations that are still carried out manually. The conventional evaluation process often affects administrative efficiency and the quality of interaction between teachers and students. Thus, the implementation of MIS is expected to improve evaluation efficiency, administrative accuracy, and provide a positive impact on student learning motivation and welfare. This study uses a qualitative approach with a descriptive type, combining data collection techniques in the form of interviews, observations, and documentation to explore the perspectives of teachers and students on the use of MIS. The results of the study indicate that the implementation of MIS can improve efficiency in the evaluation process, reduce administrative errors, and accelerate the provision of feedback to students. In addition, MIS also contributes to increasing student learning motivation, because they can quickly identify their shortcomings and make improvements before the final exam. This study is expected to provide an important contribution in describing how technology can improve the quality of learning and student welfare, especially in the madrasah environment, as well as provide recommendations for the development of more optimal educational technology infrastructure in Islamic schools.

Keywords: Management Information System, Evaluation of Learning Outcomes, Student Welfare, Learning Motivation, Administrative Efficiency

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(✉)**Correspondence Author:** kholilrohman402@gmail.com
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INTRODUCTION

Education in Indonesia currently faces various challenges, especially in terms of administrative efficiency and learning quality(Khurniawan et al., 2020; Sparrow et al., 2020). The manual learning outcome evaluation process is often a burden for teachers, reducing the time that can be used to focus on more effective learning(Shaturaev, 2021; Trinova et al., 2022). In addition, the conventional value recapitulation process is prone to human error and often affects the accuracy of student assessments(Supriyadi et al., 2020). This phenomenon is also evident where the heavy administrative burden has an impact on the quality of learning and student welfare. This leads to the need for innovation in the use of technology to simplify administration and improve the quality of education(Ana, 2020; Holmboe et al., 2023). One solution that has begun to be implemented is the Management Information System (MIS), which not only functions to simplify the management of academic data, but also increases the efficiency of learning outcome

evaluation. By using MIS, the administration process becomes faster, more accurate, and more transparent, which has a positive impact on teaching and student welfare, both academically and psychologically.

The application of technology in education, especially in evaluation management, has been shown to improve the efficiency and quality of teaching. Research by Crompton et al. (2021) shows that technology used to provide direct and rapid feedback can improve student learning outcomes. Feedback provided in a shorter time provides an opportunity for students to immediately correct their shortcomings, which in turn improves motivation and academic outcomes(Ajogbeje, 2023; Hooda et al., 2022; Oka, 2021). Research by Yu et al. (2022) revealed that the use of information systems in evaluation management can reduce the administrative burden on teachers and allow them to focus on more productive interactions with students. This finding is in line with research conducted by Rusnati et al. (2021) which shows that the implementation of MIS in secondary schools accelerates the evaluation process and improves student grade management, as well as improving teacher and student welfare.

Previous research has discussed the use of technology to improve evaluation efficiency and learning quality, few studies have focused on the impact of technology on student welfare in the madrasah context. Therefore, this study attempts to fill this gap by analyzing how the implementation of MIS not only improves evaluation efficiency but also has an impact on student welfare, especially in terms of learning motivation and reducing academic stress. Through a more focused approach to the conditions at MA Nurul Jadid, the study attempts to provide a new perspective in understanding the potential of technology to support student outcome evaluation and improve their overall learning experience.

The main objective of this study is to analyze the utilization of Management Information Systems (MIS) in evaluating learning outcomes and its implications for student welfare at Madrasah Aliyah Nurul Jadid. This study focuses on how the implications of using MIS on increasing administrative efficiency and accuracy in the learning outcome evaluation process, and increasing student motivation and welfare arising from the use of MIS. In this case, MIS is considered a tool that can accelerate and simplify the evaluation process, reduce the administrative burden on teachers, and provide faster and more constructive feedback for students.

This study has a strong argument regarding the importance of implementing technology in improving student welfare at MA Nurul Jadid, especially through the use of MIS. Thus, the implementation of MIS at MA Nurul Jadid not only provides efficiency in administration, but also has a direct impact on improving the quality of learning and student welfare. By using MIS, madrasahs can create a learning environment that is more transparent, responsive, and supports the overall academic development of students.

RESEARCH METHOD

This study uses a qualitative approach with a descriptive type to analyze the use of Management Information Systems (MIS) in evaluating learning outcomes and its impact on student welfare at Madrasah Aliyah Nurul Jadid. The material object in this study is the process of using MIS by teachers and students in managing academic data and learning evaluation. The main focus of the research object is how MIS contributes to the efficiency of evaluation administration, assessment accuracy, and its impact on student learning motivation and welfare. This qualitative approach was chosen because the study aims to explore in-depth understanding of the experiences, perspectives, and perceptions of teachers and students towards the use of MIS(Leko et al., 2021). With a descriptive approach, this study not only describes the phenomena that occur, but also provides an analysis of how MIS plays a role in improving the quality of learning and student welfare. The design

of this study aims to provide a comprehensive picture of the situation at MA Nurul Jadid, as well as to analyze the relationship between the use of MIS and student learning outcomes.

The collection of research data uses three main data collection techniques, namely interviews, documentation, and observation. The interview technique is used to explore direct information from teachers and students regarding their experiences in using MIS, as well as its impact on administrative efficiency, learning motivation, and their welfare. The interview was conducted with open-ended questions that allowed respondents to provide in-depth explanations of their perceptions and views on the use of MIS in learning. Documentation techniques were used to collect secondary data in the form of academic records, evaluation reports, and recordings of administrative processes generated by MIS. This data was used to analyze the extent to which MIS can improve accuracy and efficiency in processing grades and reports. In addition, observations were conducted to see directly how teachers and students interact with MIS in daily activities, as well as how this system affects the learning process and evaluation management. The combination of these three techniques is expected to provide a complete and holistic picture of the implementation of MIS at MA Nurul Jadid.

Data analysis was carried out using a data analysis model developed by Miles and Huberman, which consists of three main stages: data reduction, data presentation, and drawing conclusions/verification(Matta, 2022). In the data reduction stage, researchers filter, group, and select relevant information from the results of interviews, documentation, and observations. Irrelevant or duplicate data will be removed, and relevant data will be arranged in a way that makes it easier to analyze further. After the data is reduced, the next stage is data presentation, where the filtered information is arranged in narrative or tabular form to facilitate understanding and interpretation. At this stage, researchers begin to identify patterns that emerge in the data, such as trends in SIM usage, their impact on administrative efficiency, and changes in student motivation and well-being. Finally, the conclusion-drawing stage is carried out by formulating research findings based on the patterns that have been analyzed. This conclusion-drawing is carried out gradually and continuously, by conducting verification to ensure that the findings produced truly reflect the reality on the ground. This data analysis approach allows researchers to develop a deep understanding of the phenomenon being studied.

FINDINGS AND DISCUSSION

Improving the Efficiency of Learning Outcome Evaluation

Increased efficiency in evaluating learning outcomes after implementing SIM. Before the system was implemented, the process of recapitulating student grades took quite a long time, with an average of five working days. However, after implementing SIM, the time required for the same process was reduced to two days. This acceleration shows the effectiveness of the system in reducing the administrative burden on teachers, allowing them to focus more on the pedagogical aspects of learning. In addition, students get faster access to their evaluation results, which has an impact on increasing learning motivation. This finding is relevant in the context of the digital transformation of education, where the use of technology is expected to increase the efficiency and effectiveness of the learning system.

To explore further the impact of implementing SIM on the efficiency of evaluating learning outcomes, interviews were conducted with three teachers and two students at Madrasah Aliyah Nurul Jadid. The Mathematics teacher stated, "In the past, it took us almost a week to recap all student grades. Now, with SIM, all data is automatically organized and we can access it in a short time, only two days or even faster." The Indonesian language teacher said that "SIM is very helpful in processing student exam and assignment scores. We no longer need to input data manually

because the system is integrated with daily scores." Meanwhile, the Physics subject teacher added, "With SIM, we can focus more on providing academic guidance to students because administrative work is significantly reduced." From the student's perspective, one of the 12th grade students said, "I can immediately see my assignment and exam scores through the system, so I can know what needs to be fixed before the final exam." Another student added, "SIM is very helpful because I don't have to wait long to find out the exam results, so I am calmer and can immediately study for improvement."

The results of interviews with teachers and students showed that the implementation of SIM at Madrasah Aliyah Nurul Jadid had a real impact on increasing the efficiency of the learning outcome evaluation process. Teachers are no longer burdened with excessive administrative work because the system has automated various aspects of grade processing. This allows them to focus more on improving the quality of learning and academic guidance. From the student's perspective, SIM provides benefits in the form of transparency and accessibility of faster and more accurate grade information. They no longer experience anxiety waiting for the announcement of grades for a long time, so they can immediately make improvements in the learning process. In addition, this system also reduces the risk of human error in calculating grades, which previously could be a problem in manual evaluation. This change shows that technology has a significant role in supporting the effectiveness of the education system, especially in the aspect of learning evaluation.

Based on the results of interviews and observations, it can be concluded that the use of SIM has reduced the time for recapitulation of grades from five days to two days, providing significant efficiency for teachers. Teachers feel the benefits in terms of automation of grade processing and reduction of administrative burden, while students enjoy easy access to their learning outcomes. In addition, SIM provides better transparency in the evaluation system, ensuring that all parties involved—teachers, students, and parents—can access information in real time. This efficiency also has a positive impact on student welfare, because they have more time to improve their understanding of the material without having to wait for long evaluation results. The effectiveness of this system also shows that the use of technology in education can improve the learning experience and optimize the academic process.

Data obtained from research at MA Nurul Jadid indicates that the use of SIM not only has an impact on increasing efficiency in evaluating learning outcomes, but also contributes to student academic well-being. With faster recapitulation times, teachers have more opportunities to provide more intensive academic guidance to students. In addition, students experience reduced academic stress because they do not have to wait long to find out their learning outcomes. The transparency of the system also allows parents to be more actively involved in monitoring their children's academic development. Thus, the implementation of MIS can be considered as one of the innovations that supports technology-based learning and increases the effectiveness of the education evaluation system in the madrasah environment. The findings in this study are in line with the results of previous studies that discuss the role of technology in evaluating learning outcomes.

According to research conducted by Elrod et al. (2022), the use of technology in learning evaluation increases teacher work efficiency and transparency in the education system. The use of digital-based information systems can reduce the administrative burden on teachers and allow them to focus more on teaching(Rahmatullah et al., 2022; Santosa & Jazuli, 2022). A study by He et al. (2023) revealed that a digital-based evaluation system can reduce students' academic anxiety because learning outcome information can be accessed more quickly and accurately. The findings of this study are also reinforced by research from Djazilan and Hariani (2022) which shows that

schools that implement MIS experience an increase in student academic satisfaction. Thus, this study adds empirical evidence that the application of technology in evaluating learning outcomes provides broad benefits, both in terms of administrative efficiency and improving the academic well-being of students and teachers.

Efficiency and Accuracy of Teacher Administration in Learning Evaluation

This study examines the use of Management Information Systems (MIS) in evaluating learning outcomes at MA Nurul Jadid. The main focus of this study is to analyze how MIS can improve the efficiency and accuracy of teacher administration in the learning evaluation process and its impact on student welfare. The main findings show that with MIS, the time spent on manually recapitulating grades can be significantly reduced, allowing teachers to focus more on improving the quality of teaching and student coaching. In addition, MIS also makes it easier to monitor students' academic progress in real time, which increases transparency and accountability in learning evaluation. Another positive impact is increased teacher job satisfaction, because they have more time to assist students personally, reducing the administrative burden that is often confusing and time-consuming.

Observations conducted at MA Nurul Jadid revealed that before the use of MIS, many teachers complained about the evaluation process being time-consuming and prone to manual errors, especially in recapitulating grades and making reports. This complicated manual process also often causes delays in providing feedback to students, which affects the learning process which is not optimal. However, after the SIM is implemented, teachers can be more efficient in managing student grade data, reducing data processing errors, and speeding up the processing time for evaluation report results. In addition, this system allows teachers to directly see more accurate and easy-to-understand evaluation results, so they can provide more appropriate feedback to students. With the reduction in time needed for administration, teachers can now focus more on improving teaching methods and personal mentoring for students who need more attention.

Table 1. Evaluation Aspects Before and After Using Management Information Systems

Evaluation Aspects	Before the driver's license	After SIM	Change
Value Recap Time	2-3 days per subject	1-2 hours per subject	Significant time reduction
Accuracy of Value Data	Human error is often	Higher accuracy and automation	Improved data accuracy
Feedback to Students	Delayed and unstructured	Faster and instantly available	Delay reduction
Teacher Administrative Burden	High, lots of manual work	Significantly reduced	Increased work efficiency
Teacher Welfare	Stress and fatigue	More satisfaction and more time	Increase job satisfaction
Student Welfare	Lack of direct attention	Get more personalized assistance	Improving the quality of learning

Table 1 illustrates a clear comparison between the conditions before and after the implementation of MIS in the learning outcome evaluation process at MA Nurul Jadid. One significant finding is the reduction in time required to recap grades. Previously, this process took 2-3 days for one subject, but with MIS, the time required is only 1-2 hours, so teachers can complete this administrative task more quickly. In addition, the accuracy of grade data processing has also increased, because MIS reduces the potential for manual errors that often occur in the conventional grade recapitulation process. Feedback to students that was previously delayed can be given immediately after the evaluation is carried out, allowing students to find out their learning outcomes more quickly and make improvements. This reduced administrative burden also has an

impact on the welfare of teachers who feel more satisfied with their work, because they have more time to focus on teaching and mentoring students more personally.

Based on these findings, it can be concluded that the use of MIS in the evaluation of learning outcomes at MA Nurul Jadid has a very positive impact, both in terms of time efficiency and the quality of the evaluation process itself. With less time spent managing grade data and increased accuracy in data processing, teachers can focus more on developing more effective teaching methods. On the other hand, students also experience direct benefits in the form of faster feedback and the opportunity to get more attention from their teachers. Teacher well-being increases because they are no longer burdened by time-consuming administrative tasks, and they can interact more with students to support their academic development in more depth. Overall, the implementation of MIS not only improves administrative efficiency, but also improves the quality of teaching and student learning outcomes.

The results of this study are in line with the findings of several previous studies which show that the application of information technology in evaluating learning outcomes can improve administrative efficiency and accuracy. The use of MIS in education can reduce the administrative burden on teachers and increase the time available for direct interaction with students(Asio et al., 2022; Sych et al., 2021). Research by Villa and Manalo (2020) in the Journal of Educational Technology also states that data management technology can help improve the quality of evaluation and provide faster and more accurate feedback to students. The implementation of MIS not only improves teacher work efficiency but also has an impact on improving the quality of teaching(Martín et al., 2020; Rizvi & Nabi, 2021). A study by Karim et al. (2021) in the Journal of Educational Information Systems showed that the implementation of MIS in secondary schools can have a positive impact on teacher welfare, because they have more time to focus on pedagogical aspects rather than administrative ones. These findings support the results of research at MA Nurul Jadid and emphasize the importance of utilizing MIS to improve the learning evaluation process.

Increasing Learning Motivation through Digital Feedback System Integration

This study revealed that the use of automatic feedback features in the Management Information System (MIS) at MA Nurul Jadid has had a positive impact on students' learning motivation. This feature allows students to receive immediate feedback after completing assignments or exams, so they can immediately find out what mistakes they made and what improvements they need to make. The findings show that automatic feedback makes students more proactive in improving their grades before the final exam. This has implications for improving students' academic performance and reducing the number of cases of students falling behind in their studies. The psychological impact of this system is also evident, where students feel more involved in the learning process because they can monitor their academic progress in real-time and take corrective actions quickly. This system also facilitates more effective communication between teachers and students, which plays an important role in maintaining students' learning motivation.

The implementation of the automatic feedback feature in the MIS has had a significant impact on students' learning motivation. Before this feature, students often felt late in finding out their mistakes, so many did not have time to make improvements before the final exam. However, after the implementation of the MIS, feedback is given within a short time after the evaluation is carried out, and students can immediately find out areas that need to be improved. This encourages students to be more proactive in studying and improving their grades before the final exam. Teachers also expressed that they find it easier to monitor the progress of each student individually. This automatic feedback helps students not only to remember the material but also to actively seek solutions to their shortcomings. Some students also reported that they feel more

motivated because there is transparency in the assessment and they know exactly which areas need improvement.

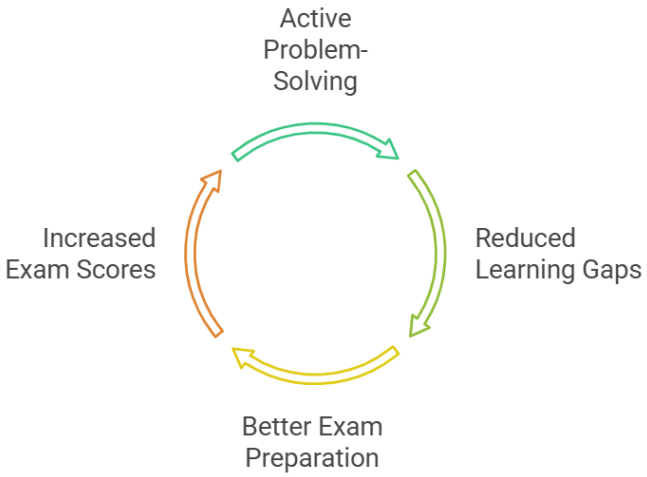

Figure 1. Cycle of Improved Student Outcomes

Figure 1 illustrates a comparison of the learning process before and after the implementation of the automatic feedback feature in SIM. Before this system, students often felt less involved in the evaluation process, because they only received feedback after a few days and did not have enough time to make improvements. After SIM was implemented, the process became much more efficient, with students receiving feedback immediately after completing an assignment or exam. This feedback allows students to immediately find out their mistakes and take corrective steps, so they can be better prepared for the final exam. This not only increases student motivation, but also allows them to monitor their academic progress more accurately and in a timely manner, which in turn increases their confidence in learning. From these findings, it can be concluded that the integration of the automatic feedback system in SIM contributes significantly to increasing student learning motivation. With fast and clear feedback, students feel more motivated to improve their learning outcomes before the final exam. This more transparent and responsive evaluation process also reduces the frustration of students who previously often felt they were late in finding out about their mistakes.

The psychological impact of this feature is very positive, because students feel appreciated and encouraged to continue improving themselves. Proactivity in learning increases, and the number of students who are lagging behind in academics decreases drastically. This shows that the automatic feedback feature not only functions as an evaluation tool, but also as a motivator for students to continue to develop in learning. Therefore, the implementation of a system like this can have a positive long-term impact on the quality of learning and students' academic success.

This finding is in line with various studies that discuss the effect of feedback on students' learning motivation. Research by Shniekat et al. (2022) shows that timely and constructive feedback can improve students' motivation and learning outcomes. They noted that feedback given immediately after an assignment or exam gives students the opportunity to correct their mistakes before the final assessment, which greatly improves learning outcomes(Akram & Khan, 2020; Faiz et al., 2023). Fast and relevant technology-based feedback can improve students' academic achievement by giving them the opportunity to learn from their mistakes in real time(Morris et al., 2021; Purwanto & Wafa, 2023). Research by Chakraborty and Biswas (2020) in Computers & Education revealed that the implementation of automatic feedback in technology-based learning

can reduce students' frustration and increase their engagement in the learning process. Timely feedback can motivate students to be more active in learning and reduce the level of academic delay(Ismail et al., 2022). Based on this study, it can be concluded that the automatic feedback feature in SIM at MA Nurul Jadid has the potential to encourage increased student learning motivation and reduce the level of academic lag.

CONCLUSION

The use of Management Information System (MIS) in MA Nurul Jadid has a significant positive impact on the efficiency and effectiveness of learning outcome evaluation. First, MIS has increased efficiency in the evaluation process, reduced the time needed for teachers to manually recap grades, and allowed them to focus more on developing teaching methods and coaching students personally. Second, the use of MIS improves administrative accuracy, minimizes human error in processing grade data, and accelerates the provision of feedback to students. Third, the integration of a digital feedback system in MIS has been shown to increase student learning motivation, because students can receive instant feedback, encouraging them to be more proactive in improving grades and preparing for final exams better. Although these findings show positive results, there are several limitations, such as dependence on devices and a stable internet connection, and the need for training for teachers and students to be able to maximize the use of the system effectively. Further research can be conducted to explore how improvements in technological infrastructure and more intensive training can enrich the use of MIS in learning, as well as identify factors that influence the success of system implementation in various types of schools.

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