



TRANSFORMATION OF LMS-BASED LEARNING EVALUATION MANAGEMENT TO IMPROVE STUDENT ASSESSMENT ACCOUNTABILITY

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Abstract:

This study aims to analyze the application of Learning Management System (LMS)-based learning evaluation management in improving student grade accountability. This study uses a qualitative approach with a literature study method to examine the concept, strategy, and implementation of LMS-based learning evaluation management. Data were obtained from various scientific literature, including journal articles, books, proceedings, and relevant scientific documents. Data were analyzed interactively through data reduction, data presentation, and conclusion drawing, and validated using source triangulation to ensure the credibility and objectivity of the study. The results of the study indicate that LMS-based evaluation management, which includes digital question bank planning, synchronized online exam implementation, and automatic grade processing, can minimize human error and subjectivity in the assessment process. The digital footprint feature in the LMS provides authentic evidence of student learning activities and evaluation implementation. In addition, the transparency of assessment results that can be accessed by students and parents contributes to increasing public trust and accountability of educational institutions. The integration of LMS in learning evaluation governance not only encourages the digitalization of the assessment process but also transforms the evaluation system to be more credible, transparent, and accountable. This research recommends strengthening educators' digital capacity, standardizing technology infrastructure, and developing LMS-based evaluation policies as strategies to optimize educational quality in the era of digital transformation.

Keywords: *Learning Management System (LMS), Learning Evaluation Management, Assessment Accountability, Digital Transformation of Education*

INTRODUCTION

The development of digital transformation has changed the paradigm of education delivery, including the learning evaluation system. The use of Learning Management Systems (LMS) is no longer limited to delivering material but has evolved into an assessment management instrument that supports the effectiveness, efficiency, and accountability of assessments (Coates et al., 2005). The public is increasingly demanding objective, transparent, and accountable evaluation processes. Furthermore, the digitalization of education presents an opportunity to establish systematically documented evaluation governance, thereby improving the quality of educational services and strengthening the trust of all stakeholders (Amelia et al., 2025).

Socially, learning assessment practices still face various challenges, such as errors in grade input, inconsistencies in scoring, limited documentation, and limited access to information for students and parents (Honey & Carrasco, 2023). These conditions have the potential to create perceptions of unfairness and undermine the credibility of educational institutions. The presence of an LMS offers an alternative that allows for an automated, documented, and easily traceable evaluation process (Harefa, 2020). Thus, the evaluation system is not only oriented towards learning outcomes but also ensures transparency in the assessment process as part of accountable educational governance.

Previous studies have shown that LMS implementation can increase learning flexibility, the effectiveness of online assessments, and the efficiency of academic administration (Harianto, 2024). However, most studies still focus on improving learning outcomes, user satisfaction, or technology acceptance through various analysis models. Research specifically addressing LMS-based learning evaluation management as an instrument for strengthening assessment accountability is still relatively limited. This gap highlights the need for studies that position the LMS as part of an education management system, not simply a digital learning platform.

From an education management perspective, learning evaluation encompasses a series of activities encompassing planning, implementation, processing, reporting, and follow-up on learning outcomes. LMS integration enables all these stages to be managed within a single, interconnected digital ecosystem. Features such as question banks, assessment scheduling, automatic corrections, learning analytics, and digital record-keeping support more objective decision-making (Saha et al., 2023). Therefore, LMS implementation not only improves operational efficiency but also strengthens the principles of transparency, accuracy, and accountability in the implementation of learning evaluation.

The legal basis for implementing digital-based learning evaluation is supported by various national regulations. Law Number 20 of 2003 concerning the National Education System affirms that evaluation is an integral part of educational quality control. Furthermore, Law Number 14 of 2005 concerning Teachers and Lecturers mandates that educators must carry out professional assessments of learning outcomes. Furthermore, Government Regulation Number 57 of 2021 concerning National Education Standards emphasizes the importance of an objective, fair, transparent, and accountable assessment system in line with developments in science and technology.

Strengthening the digital transformation of education also gains legitimacy through the national policy on Electronic-Based Government Systems (SPBE), as stipulated in Presidential Regulation Number 95 of 2018. This policy encourages the digitalization of public service governance, including the education sector. In the context of learning evaluation, the LMS serves as a medium that supports the provision of information technology-based educational services through data storage, process automation, and real-time information provision. This implementation aligns with the direction of educational development that adapts to the development of digital technology.

The novelty of this research lies in its analytical perspective, which positions the LMS as a learning evaluation management instrument to strengthen assessment accountability, rather than simply as an online learning medium. This research integrates the concepts of evaluation management, digital governance, transparency, and the digital footprint as a mechanism to strengthen the credibility of assessment results. This approach provides a more comprehensive perspective in understanding the role of the LMS as the

foundation of a modern, governance-oriented educational evaluation system.

The urgency of this research is growing as educational institutions' need for evaluation systems that meet the demands of transparency, efficiency, and accountability increases. Technological developments present both opportunities and challenges in ensuring that every assessment process is objective and documented. A study on evaluation management

RESEARCH METHODS

This study uses a qualitative approach using a literature study method (library research) to analyze the management of learning evaluation based on Learning Management Systems (LMS) in improving student assessment accountability. This approach was chosen because it allows researchers to gain a comprehensive understanding of concepts, theories, empirical findings, and the development of LMS implementation in learning evaluation systems. The literature study is oriented not only toward information collection but also toward critical synthesis of various scientific references to produce conceptual constructs relevant to the development of digital transformation in education. Therefore, this study positions literature as the primary source for explaining the relationship between LMS-based evaluation governance, assessment transparency, and increased accountability in educational institutions.

The research data sources consist of secondary data obtained from reputable national and international journal articles, academic books, conference proceedings, education policy documents, and regulations related to learning evaluation, educational technology, and digital education governance (Malik et al., 2023). The literature was selected based on the criteria of thematic relevance, source credibility, publication recency, and its contribution to the development of the concept of LMS-based learning evaluation management (Sari et al., 2024). The literature search was conducted through the Google Scholar scientific database using various keywords related to Learning Management Systems, learning evaluation management, assessment accountability, digital transformation of education, and digital assessment. All sources that met the criteria were then classified based on their focus to facilitate the analysis process.

Data analysis was conducted interactively through the stages of data reduction, data presentation, and drawing and verifying conclusions (Miles, Huberman, & Saldana, 2014). The reduction stage involved selecting the most relevant literature, identifying key themes, and grouping concepts based on the research focus. The data was then presented in the form of an analytical narrative that integrates various scientific perspectives on LMS implementation in learning evaluation management. The final stage, drawing conclusions, was conducted inductively through a conceptual synthesis of all findings. To ensure the credibility of the research, data validity was strengthened using source triangulation by comparing various scientific references, regulations, and previous research results to produce objective, consistent, and academically accountable interpretations (Sari et al., 2024).

RESULTS AND DISCUSSION

Learning Management System-Based Evaluation Management Architecture

Digital transformation has driven fundamental changes in the learning evaluation management architecture. Previously implemented conventionally, evaluation systems have now evolved into a digital ecosystem that integrates planning, implementation, processing, and reporting of learning outcomes within

a single Learning Management System (LMS)-based platform. A literature review indicates that this change is not simply a digitalization of evaluation media, but rather a restructuring of assessment governance to be more systematic, efficient, and documented. The LMS provides an integrated data management mechanism so that all evaluation activities can be monitored in real time. This demonstrates that modern evaluation architecture positions technology as a strategic instrument in building a transparent, adaptive, and quality-oriented assessment system (Imaroh & Purnomo, 2025).

The planning stage is the primary foundation of an LMS-based evaluation management architecture. The literature shows that the development of digital question banks, the determination of competency achievement indicators, the setting of assessment schedules, and the configuration of assessment weights can be carried out in a structured manner through the system. This integration makes it easier for educators to align evaluation instruments with predetermined learning outcomes. In addition to improving administrative efficiency, digital planning also reduces the potential for inconsistencies between evaluation tools (Sari et al., 2024). Thus, the LMS functions as a control center, ensuring that the entire evaluation process is systematically designed based on the principles of validity, reliability, and measurability.

Various studies have shown that digitizing question banks is a crucial component in building a quality evaluation system. Questions can be classified by competency, difficulty level, and assessment format, facilitating the selection of instruments tailored to learning needs. Question randomization and answer order features contribute to improving the integrity of the evaluation process. Furthermore, storing question banks in a digital system allows for continuous updating based on item quality analysis. These findings demonstrate that the LMS serves not only as a data storage medium but also supports the development of more objective and sustainable evaluation instruments.

During the implementation phase, the LMS provides a more standardized evaluation mechanism than conventional methods. Exam timing, participant authentication, question distribution, and answer collection are all automated within a single, integrated system. Literature suggests that this standardization can reduce variation in treatment during the assessment process, thus minimizing the chance of procedural errors. Furthermore, the system can record all participant activities throughout the evaluation process. Recording these activities is crucial for creating a more accountable assessment process because each stage has digital evidence that can be verified if necessary.

Evaluation result processing is the aspect that has undergone the most significant transformation through LMS implementation (Khairiniza & Rizki, 2025). The system is capable of automatically correcting various types of objective questions, calculating final grades based on predetermined formulas, and generating learning outcome reports instantly. This automation reduces reliance on manual processes that are prone to human error. Literature reviews also show that consistent assessment algorithms help minimize subjectivity in

scoring (Khairiniza & Rizki, 2025). This makes the grade processing process more efficient while increasing trust in the evaluation results generated by the system.

The LMS-based evaluation management architecture is also supported by the system's ability to store and manage digital footprints. Every user activity, such as access time, work duration, login frequency, assignment submission process, and data change history, is automatically documented. The literature explains that digital footprints have strategic value as authentic evidence in the evaluation process. This information can be used to identify student learning patterns, evaluate the effectiveness of assessment implementation, and support academic audit processes. Therefore, the existence of a digital footprint strengthens the credibility of the evaluation system because all activities can be objectively traced.

Another advantage of the LMS architecture lies in the integration of evaluation data with the academic information system. Assessment results no longer exist as separate documents but become part of an interconnected educational data ecosystem. This integration enables educators, students, and education administrators to access information on assessment results.

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Learning Management System-Based Evaluation Management

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CONCLUSION

This research demonstrates that implementing a Learning Management System (LMS)-based learning evaluation management system is a strategic innovation in transforming educational evaluation governance toward a more effective, transparent, and accountable system. The integration of various LMS features, such as digital question banks, online assessments, automated grade processing, learning outcome reporting, and a digital footprint, can strengthen assessment objectivity while minimizing human error. In addition to improving administrative efficiency, an LMS also supports evidence-based decision-making, thus enhancing the credibility of evaluation results. Thus, an LMS functions not only as a digital learning platform but also as an evaluation governance instrument that supports the continuous improvement of educational quality.

However, this research has several limitations. The study used a literature review method, so the findings are still conceptual and not supported by empirical data from LMS implementations at various levels or educational unit characteristics. Furthermore, the discussion focuses more on aspects of evaluation management and assessment accountability, thus not fully examining other factors, such as cost-effectiveness, organizational readiness, data security, user privacy protection, or the influence of artificial intelligence on LMS-based learning evaluation systems. These limitations open up opportunities for developing more comprehensive research in the future.

Based on these findings and limitations, further research is recommended using an empirical approach through case studies, surveys, mixed methods, or experiments to test the effectiveness of LMS implementation in improving assessment accountability in various educational contexts. Future research should also develop an evaluation governance model that integrates learning analytics, artificial intelligence, and decision-making dashboards to produce a more adaptive, predictive, and data-driven evaluation system. From a practical perspective, educational institutions are advised to strengthen educators' digital competencies, provide adequate technological infrastructure, develop operational standards for LMS-based evaluations, and develop data security policies so that digital transformation can sustainably improve the quality of educational services.

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