JURNAL KAJIAN ILMU PENDIDIKAN
AL-MUADDIB Jurnal
E-ISSN : 2685-9149
P-ISSN : 2723-0805

OPTIMIZING MOODLE LMS FEATURES FOR FLIPPED LEARNING IN ISLAMIC EDUCATION: YOUTUBE-BASED CONTENT CURATION

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Received: June 2026	Accepted: June 2026	Published: July 2026

Abstract:

This study aims to analyze the optimization of Moodle LMS features in implementing flipped learning through YouTube-based content curation in Islamic Education at SMAN 17 Surabaya. The research employs a qualitative approach with a case study design, focusing on in-depth exploration of instructional practices carried out by PAI teachers. Data were collected through in-depth interviews and document analysis, and analyzed using the interactive model of Matthew B. Miles. The results showed that teachers curated YouTube videos based on material relevance, resource credibility, presentation quality, and religious moderation values before integrating them into Moodle. The Activity Completion and Restrict Access features were used to organize the sequence of learning activities so that students could access the material before face-to-face learning, repeat videos when having difficulty understanding concepts, and complete prerequisite activities before participating in class discussions. During the face-to-face phase, students composed sermon texts, practiced sermons in front of the class, and took assessments through Moodle's Quiz and Assignment features. These findings indicate that Moodle functions as a pedagogical system that manages the learning flow, increases student engagement, and supports independent learning behavior. This study concludes that the effectiveness of LMS-based flipped learning depends on a pedagogical design that integrates content curation, learning activity management, and a student-centered learning experience.

Keywords: *Flipped Learning; Moodle LMS; Content Curation; Islamic Education*

Abstrak:

Penelitian ini bertujuan untuk menganalisis optimasi fitur Moodle LMS dalam mengimplementasikan pembelajaran terbalik (flipped learning) melalui kurasi konten berbasis YouTube dalam Pendidikan Agama Islam di SMAN 17 Surabaya. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus, yang berfokus pada eksplorasi mendalam praktik pembelajaran yang dilakukan oleh guru PAI. Data dikumpulkan melalui wawancara mendalam dan analisis dokumen, dan dianalisis menggunakan model interaktif Matthew B. Miles. Hasil penelitian menunjukkan bahwa guru mengkurasi video YouTube berdasarkan relevansi materi, kredibilitas narasumber, kualitas penyajian, dan nilai moderasi beragama sebelum mengintegrasikannya ke dalam Moodle. Fitur *Activity Completion* dan *Restrict Access* digunakan untuk mengatur urutan aktivitas belajar sehingga siswa mengakses materi sebelum pembelajaran tatap muka, mengulang video ketika mengalami kesulitan memahami konsep, serta menyelesaikan aktivitas prasyarat sebelum mengikuti diskusi di kelas. Pada fase tatap muka, siswa menyusun teks khutbah, mempraktikkan khutbah di depan kelas, serta mengikuti asesmen melalui fitur *Quiz* dan *Assignment* pada Moodle. Temuan ini menunjukkan bahwa Moodle berfungsi sebagai sistem pedagogis yang mengelola alur pembelajaran, meningkatkan keterlibatan siswa, dan mendukung perilaku belajar mandiri. Studi ini menyimpulkan bahwa efektivitas *flipped learning* berbasis LMS bergantung pada desain pedagogis yang mengintegrasikan kurasi konten, pengelolaan aktivitas belajar, dan pengalaman belajar yang berpusat pada

siswa.
Kata Kunci: Pembelajaran Terbalik; Moodle LMS; Kurasi Konten; Pendidikan Islam

INTRODUCTION

Islamic Religious Education in the digital era faces a significant challenge in the form of the rapid flow of religious information in cyberspace, not all of which possesses adequate validity and scholarly authority. Students, particularly at the senior high school level, tend to be more attracted to visual content that is fast, concise, and dynamic compared to conventional lecture based methods. This condition necessitates a transformation in the role of Islamic Religious Education teachers from merely delivering subject matter to acting as digital content curators who are responsible for identifying, collecting, filtering, and systematically organizing high-quality content to ensure its alignment with learning objectives (Elgi Septrio Neldi, Gufra Ifnaldi, & Gusmaneli Gusmaneli, 2024). This is further supported by research on the optimization of YouTube in Arabic language learning in Islamic boarding schools, which demonstrates that content curation strategies play a crucial role in determining the effectiveness of video-based learning (Arisandi & Habib, 2025).

Within a pedagogical framework, the flipped classroom approach emerges as a relevant model to address these challenges. This model reverses the traditional learning pattern by shifting initial content acquisition to outside the classroom through digital media. As a result, students are expected to prepare and study the material independently at home before class. Meanwhile, classroom time is then utilized for discussion, deeper engagement, and problem-solving activities (Noor Latifah, Agus Hadi Utama, & Qomario, 2024). This approach aligns with Self-Determination Theory developed by (Richard M. Ryan & Edward L. Deci, 2017), which emphasizes that autonomy, competence, and relatedness are key factors in fostering students' intrinsic motivation.

The implementation of Flipped Learning in Islamic Religious Education has been shown to enhance students' engagement in the learning process, while also making the delivery of instructional content more efficient (Abdullah Hamid & Mohamad Samsul Hadi, 2020). The success of this model largely depends on the effective management of a Learning Management System (LMS) as a bridge between independent learning activities and in-class collaboration. Through the LMS, teachers can easily upload digital learning materials and provide students with flexible access anytime and anywhere. In addition, the LMS facilitates the management of assignments and quizzes, while also offering features that enable

immediate feedback (Yusuf, 2025).

SMAN 17 Surabaya, as an institution that continuously innovates in ICT-based learning, has adopted Moodle to support its digital learning ecosystem. In Islamic Religious Education for eleventh grade students, particularly on the topics of Dakwah, Khutbah, and Tabligh, Moodle is utilized as a central hub for distributing curated video content from YouTube. Through Moodle, teachers are able to organize these materials in a structured manner, enabling students to access and revisit them repeatedly according to their individual learning pace (Fatmawati Mahabul, Muhammad Subhan, Oktavia Indah Pramadita, Avan Fahriza, & Aditiya Ekabudi, 2025).

Various studies have examined the implementation of the flipped classroom in the context of Islamic Religious Education with diverse focuses and approaches. A study by Fatmawati Nur Hasanah shows that the integration of a Moodle-based flipped classroom can enhance the pedagogical competence of prospective Islamic Religious Education teachers, particularly in the context of microteaching. These findings highlight that a Learning Management System has significant strategic potential in supporting flipped learning. However, its application remains largely limited to higher education settings and has not yet fully addressed direct instructional practices in secondary school classrooms.

Meanwhile, research in the context of Islamic Religious Education at the school level, such as that conducted by (Alaniah, Soraya, & Hamdani, 2024), indicates that the implementation of the flipped classroom can enhance students' learning motivation. Another study by (Fitri Meliani, Dandy Sobron Muhyiddin, Uus Ruswandi, Bambang Samsul Arifin, & Suzana Suzana, 2022) also reveals various challenges in the implementation of the flipped classroom in Islamic Religious Education, including technological readiness and pedagogical adaptation.. Furthermore, broader studies on the flipped classroom as a digital-based innovation in Islamic Religious Education, such as those conducted by Atabik, Fian, Hardoyono, & Dahlan (2025), emphasize that this model is relevant for supporting 21st century student-centered learning. However, these studies remain largely conceptual or generally implementative, without providing an in-depth examination of the technical design aspects of system-based digital learning.

Furthermore, a systematic review conducted by Syamsudin, Rofiani Rofiani, Andriyana Andriyana, Zul Andrivat, & Azizah Nur Islami (2025) indicates that research on the flipped classroom in Islamic Religious Education

tends to focus on pedagogical impacts, instructional design, and implementation challenges. Although this body of work provides a comprehensive overview, it also suggests that in-depth technological integration, particularly the optimization of Learning Management Systems, has not yet become a primary focus in previous studies.

Collectively, these studies demonstrate that the flipped classroom has become an increasingly prominent approach in Islamic Religious Education, particularly in promoting student engagement, learning motivation, and learner-centered instruction. Recent research trends also indicate a growing interest in integrating digital technologies such as Learning Management Systems into flipped learning environments. However, the optimization of LMS features as pedagogical tools for managing learning processes and curating digital content remains underexplored.

Based on this synthesis, a significant research gap can be identified. Although the flipped classroom has been widely implemented in Islamic Religious Education and has even been integrated with Learning Management Systems such as Moodle, most studies still position the LMS merely as a supporting tool for content distribution rather than as a system optimized to pedagogically regulate students' learning processes. In addition, there is still a lack of studies that specifically integrate the optimization of Moodle features with YouTube-based content curation strategies within the framework of flipped learning, particularly in the context of Islamic Religious Education at the secondary school level. In fact, digital content curation plays a crucial role in ensuring the validity of religious materials while also enhancing the relevance of learning to students' characteristics in the digital era. Therefore, this article aims to examine the optimization of Moodle features at SMAN 17 Surabaya in managing curated YouTube content in order to create a more interactive, autonomous, and applicable Islamic Religious Education learning experience for students.

Unlike previous studies that primarily examined the pedagogical impacts of flipped classroom implementation, this study focuses on the optimization of Moodle as a pedagogical management system through the integration of curated YouTube content. This research not only explores the use of Moodle as a content repository but also investigates how its features are strategically utilized to regulate students' pre-class learning activities, monitor engagement, and support autonomous learning in Islamic Religious Education at the secondary school

level. To the best of the authors' knowledge, no previous study has specifically examined the integration of Moodle feature optimization and YouTube content curation within a flipped classroom framework in Islamic Religious Education at the senior high school level.

Therefore, this study aims to analyze how Moodle features are optimized to facilitate curated YouTube-based flipped learning in Islamic Religious Education at SMAN 17 Surabaya and to identify their contribution to fostering students' autonomous and interactive learning experiences.

RESEARCH METHOD

This study employs a qualitative method with a case study approach, aiming to examine in depth the implementation of flipped learning based on the Moodle Learning Management System in Islamic Religious Education at SMAN 17 Surabaya, East Java, Indonesia. The case study approach is selected because the research focuses on a specific context, including a particular class, teacher, and instructional practices, which are analyzed comprehensively. In qualitative research, the researcher served as the primary research instrument and was directly involved in collecting, interpreting, and analyzing the data. The research subject and key informant was an Islamic Religious Education teacher who implemented flipped learning in the topics of dakwah, khutbah, and tabligh.

The research data were collected through in-depth interviews, observation, and document analysis. In-depth interviews were conducted to explore information related to the planning, implementation, and evaluation of Moodle-based learning. Observation was carried out by examining the Moodle learning environment, including course organization, curated YouTube content, and the utilization of Moodle features such as URLs, forums, quizzes, and assignments that supported flipped learning activities. In addition, data were obtained through document analysis, including lesson plans, teaching modules, and learning activity designs available within Moodle. The combination of these techniques enabled the researcher to obtain a comprehensive understanding of the implementation of flipped learning through Moodle. To ensure the trustworthiness of the findings, source triangulation was employed by comparing data obtained from interviews, Moodle observations, and instructional documents.

Data analysis in this study employed the interactive analysis model proposed by(Matthew B. Miles, A. Michael Huberman, & Johnny Saldana, 2014), which consists of three main stages: data reduction, data display, and conclusion

drawing or verification. In the data reduction stage, the researcher selected, focused, and simplified data obtained from interviews observations, and relevant instructional documents related to the implementation of Moodle-based flipped learning. The next stage involved data display, in which the data were organized into descriptive narratives so that patterns, relationships, and findings could be understood systematically. The final stage was conclusion drawing, which was carried out continuously throughout the research process, accompanied by verification to ensure the validity of the findings. This model was chosen because it allows data analysis to be conducted simultaneously and iteratively, thereby providing a deeper understanding of the use of LMS in supporting flipped learning and students' learning autonomy.

FINDINGS AND DISCUSSION

YouTube Video Content Curation Strategy

Based on observations of the Moodle platform and interviews with the Islamic Religious Education teacher at SMAN 17 Surabaya, the curation of YouTube videos constitutes an essential stage in the implementation of flipped learning. The interview findings revealed that the teacher employed several considerations when selecting YouTube videos for flipped learning activities. As explained by the teacher: "In selecting YouTube videos, I consider several aspects, including their relevance to the learning objectives, the credibility of the speaker, the appropriateness of video duration, the clarity of language, visual quality, suitability for students, and the promotion of religious moderation values". (Nizam Burhanuddin, 2026).

Table 1. Criteria for YouTube Video Curation in Islamic Religious Education

Curation Aspect	Selection Criteria
Content relevance	Aligned with learning objectives and indicators
Speaker credibility	Ustadz, academic, or qualified preachers
Video duration	Approximately 5-10 minutes
Language use	Communicative and understandable
Visual quality	Clear audio and engaging visuals
Student suitability	Appropriate for senior high school students
Religious moderation	Free from hate speech and intolerance

Content curation refers to a systematic process of selecting, organizing, evaluating, and re presenting information from various sources for specific purposes. According to (Dale, 2014), content curation emerged as a response to the phenomenon of information overload in the digital era, where the production of information is abundant, yet not all of it is relevant or of high quality. In this context, curation is not merely understood as an activity of selecting information, but also involves the active engagement of individuals who possess expertise in a particular field to interpret and add value to the content. Through this process, curators play a crucial role in filtering relevant information, organizing it effectively, and presenting it in a more meaningful context for users.

Research Cherrstrom & Boden (2020) explains that curation in education is a systematic process that encompasses not only content selection but also the organization, meaning-making, and distribution of learning materials to students. Curation serves as a pedagogical strategy that helps address the phenomenon of information overload while supporting the development of digital literacy and independent learning. However, curation practices in education are still not optimally structured and are often limited to resource sharing activities without a clear pedagogical design.

Research Dezuanni, Cunningham, Goldsmith, & Miles (2017) emphasized that content curation by teachers is a professional practice based on pedagogical content knowledge (PCK), namely the ability to integrate understanding of material with delivery strategies. In this context, teachers not only select content but also assess its suitability for teaching, adapting it, and organizing it to suit the characteristics of students. However, curation practices carried out by teachers are still intuitive and have not been systematically standardized, potentially leading to inconsistencies in the quality of digital media-based learning.

In the context of digital learning, YouTube has become one of the most widely used platforms as a learning resource because it provides audio visual content that is easily accessible, diverse, and aligned with the characteristics of Generation Z. The use of YouTube in education enables learners to gain more concrete learning experiences through the visualization of materials, demonstrations, and explanations that are more communicative compared to purely textual sources. A study by Binti Yahaya & Bin Ahmad (2025) shows that YouTube-based learning videos can enhance student engagement by offering

flexible access, opportunities for repeated viewing, and more interactive independent learning experiences. Furthermore, a study by Arisandi and Habib Arisandi & Habib (2025) on the optimization of YouTube in Arabic language learning in Islamic boarding schools indicates that the effectiveness of learning videos is strongly influenced by the quality of content presentation, the credibility of the presenter, and the ability of the video to actively engage learners.

In the flipped learning model, the process of video curation becomes increasingly important because videos function as the primary learning resource during the pre class stage. Content that is irrelevant or overly complex can hinder students' readiness before they engage in classroom discussions and practical activities. Based on the results of observations and interviews, the Islamic Religious Education teacher of grade eleven at SMAN 17 Surabaya carries out a selective process of curating YouTube videos before integrating them into the Moodle learning management system. The selection of videos is not solely based on content popularity but also takes into account the alignment of the material with the learning objectives in Islamic Religious Education, particularly on the topics of Dakwah, Khutbah, and Tabligh. The teacher tends to choose videos that are directly related to the learning indicators so that students can develop a conceptual understanding that is consistent with the Islamic Religious Education curriculum.

In addition to content relevance, the credibility of the speaker is also a primary consideration in the curation process. Teachers tend to select videos delivered by ustadz, academics, or preachers who have a clear scholarly background and are recognized for presenting moderate religious perspectives. This consideration is intended to minimize the risk of exposing students to provocative interpretations or viewpoints that are not aligned with the principles of religious moderation promoted in Islamic Religious Education at school.

From a technical perspective, the Islamic Religious Education teacher for eleventh grade at SMAN 17 Surabaya tends to select videos with a short duration, approximately five to ten minutes, to align with the learning characteristics of Generation Z students who prefer concise and communicative visual content. Videos that are too long are considered likely to reduce students' focus and engagement during the pre-class phase of flipped learning. Therefore, the teacher prioritizes videos that are able to present the core material in a concise, clear, and direct manner, focusing on the main points of the lesson.

The teacher also considers the use of language that is communicative and easily understood by senior high school students. Videos that employ overly complex terminology or a monotonous delivery style are generally avoided, as they are perceived to be less effective in fostering student engagement. In addition, visual presentation is an important aspect in the curation process. The teacher tends to select videos with high audio visual quality, supported by illustrations or concrete examples, and delivered in an engaging manner so that the topics of dakwah, khutbah, and tabligh can be understood more contextually.

Another important consideration in the content selection process is its appropriateness to students' developmental level. The teacher avoids videos that contain overly provocative narratives, complex theological debates, or modes of delivery that are not aligned with the psychological maturity of senior high school students. In practice, the teacher seeks to ensure that all selected content remains educational, communicative, and capable of fostering an inclusive understanding of religion.

Integration of Moodle Features in the Pre-class Scenario

Based on observations of the Moodle platform and interviews with the Islamic Religious Education teacher at SMAN 17 Surabaya, the pre-class phase is systematically organized through several Moodle features, including URL resources, embedded YouTube videos, Activity Completion, and Restrict Access. These features are integrated to ensure that students engage with learning materials before participating in classroom discussions and practice activities.

In the flipped learning model, the pre-class stage serves as a crucial phase that aims to build students' learning readiness before face-to-face instruction takes place. At this stage, students independently study the material through digital learning resources, allowing classroom time to be focused on discussion, practice, and deeper conceptual understanding. Theoretically, the pre-class phase functions as a stage of cognitive preparation, enabling students to construct initial understanding before engaging in higher-order learning activities in the classroom. These findings are consistent with the flipped classroom model proposed by Lage, Platt, & Treglia (2000) which emphasizes students' acquisition of foundational knowledge before classroom instruction so that face-to-face sessions can be devoted to higher-order learning activities.

The success of the pre-class phase is strongly influenced by the teacher's ability to manage the Learning Management System in a structured and interactive manner. In this context, Moodle does not merely function as a

repository for learning materials, but rather as a digital learning environment that organizes the flow, activities, and student engagement in independent learning. The findings support the study of Fitrawansah Fitrawansah et al., (2024) which argues that Moodle-based flipped classrooms can facilitate self-directed learning through the systematic organization of learning activities and digital interactions.

In Islamic Religious Education for eleventh-grade students at SMAN 17 Surabaya, Moodle features are integrated as the central hub for managing pre-class activities in the topics of Dakwah, Khutbah, and Tabligh.

Figure 1. Moodle Learning Materials Used in the Pre-Class Phase

Based on classroom observations, teachers utilize the URL feature and video embedding to display curated YouTube content directly on the Moodle page. This integration allows students to access learning materials more easily without repeatedly switching between platforms. In addition to improving accessibility, embedding videos directly within the LMS helps maintain students' focus, as all learning activities are contained within a single, structured digital ecosystem. Moodle guidelines explain that YouTube videos can be integrated through URL or embed features, enabling videos to be played directly within the course page without requiring students to open external tabs ("Moodle Tutorials: Embedding YouTube Videos," 2026).

After the content provision stage, the next important aspect is ensuring students' active engagement with the learning materials. In this regard, the Islamic Religious Education teacher at SMAN 17 Surabaya optimizes the Activity Completion feature as a learning control mechanism. This feature allows the teacher to set completion indicators, such as opening learning materials, achieving a certain score, or marking an activity as completed. When students meet these criteria, the system automatically displays a check mark as an indicator of learning progress. Thus, this feature is utilized by the teacher to systematically monitor student engagement ("Activity Completion," 2011).

From a pedagogical perspective, the use of the Activity Completion feature does not only function as a monitoring tool, but also as a form of digital scaffolding that encourages the development of self regulated learning among students. This feature enables students to monitor their learning progress, control their engagement, and manage the learning sequence independently, as emphasized in the self regulated learning theory proposed by Barry J. Zimmerman and supported by Ernesto Panadero's research, which shows that digital learning environments can strengthen self regulation through mechanisms of monitoring and control of learning activities (Panadero, 2017a). In practice, the teacher sets the activity of watching dakwah videos as a prerequisite before students are allowed to access discussion forums or reflective assignments. This strategy indicates a shift from passive learning toward a learning process that demands students' independent learning responsibility**.**

Furthermore, to manage the flow of Islamic Religious Education learning in a more structured manner, the teacher at SMAN 17 Surabaya utilizes the Restrict Access feature in Moodle. The ("Restrict Access Settings," 2026) feature is used to limit students' access to certain activities or materials based on specific conditions, such as the completion of previous activities, access dates, grades, learning groups, or user profiles. With this feature, the teacher can design a structured learning path so that students are required to complete certain stages before proceeding to the next activities.

In Islamic Religious Education for eleventh-grade students at SMAN 17 Surabaya, the Restrict Access feature is used to ensure that students complete the pre-class stage before entering in-class discussion and practice activities. The teacher configures the system so that discussion forums, reflective assignments, and quizzes can only be accessed after students have completed the previously curated dakwah video viewing activity. This approach not only builds learning discipline but also ensures students' initial cognitive readiness before participating in face-to-face learning.

From an analytical perspective, the integration of Moodle features in the pre-class scenario demonstrates a transformation of the LMS function from merely a material repository into a pedagogical instrument that supports flipped learning design. The Activity Completion feature plays a role in monitoring and encouraging learning engagement, while Restrict Access functions as a mechanism for controlling the learning flow. The effectiveness of thesFurthermore, the curatione features depends heavily on the teacher's technological competence as

well as students' discipline in accessing learning materials, indicating that LMS utilization is not merely a technical matter but also relates to teaching practices and students' learning habits. Thus, structured LMS management becomes a key factor in creating Islamic Religious Education learning that is more independent, directed, and meaningful.

In-class Activity Management

Based on classroom observations and interviews with the Islamic Religious Education teacher at SMAN 17 Surabaya, the in-class phase of flipped learning was focused on discussion, collaborative preparation of khutbah texts, khutbah practice, and learning evaluation. "Most students had already watched the videos uploaded in Moodle before coming to class. Therefore, when I asked questions about dakwah, khutbah, and tabligh, many of them were able to respond and participate in the discussion. The interaction in the classroom also became more active because students already had an initial understanding of the material." (Nizam Burhanuddin, 2026).

In-class activity management in the flipped learning model represents the core phase that functions to actualize students' prior knowledge into more complex and meaningful learning activities. At this stage, learning is no longer oriented toward the transmission of content, but rather toward strengthening understanding through practice, interaction, and reflection. Theoretically, learning activities in the in-class phase of the flipped learning model are grounded in the principle of active learning, namely students' active engagement in the learning process through discussion, practice, and reflection. A meta-analysis conducted by Freeman et al., (2014) shows that active learning significantly improves students' academic performance compared to traditional lecture-based instruction. The study also reveals that failure rates in lecture-based classes are considerably higher than in classes that implement active learning. Thus, the in-class phase in flipped learning has strong empirical support as a space for implementing student-centered active learning.

In the context of Islamic Religious Education, particularly in the topics of khutbah, tabligh, and dakwah in Grade XI at SMAN 17 Surabaya, the implementation of active learning not only enhances students' cognitive understanding but also develops their performative skills in delivering dakwah messages directly. The khutbah practice conducted in the classroom represents a form of active learning that requires simultaneous intellectual, emotional, and social engagement. This indicates a shift in approach from knowledge-based

learning toward skill-based religious learning.

At the initial stage, the teacher allocated approximately 10–15 minutes for conceptual reinforcement through classroom discussion that connected the content of the pre-class video with the structure of the khutbah. In practice, the teacher posed guiding questions such as "What is the difference between khutbah and lecture?", which were then responded to orally by students, resulting in a two-way interaction that demonstrated their initial readiness. This activity functioned as a cognitive bridge to ensure that students had a relatively shared foundational understanding before entering the practical stage. Subsequently, students were directed to collaboratively construct khutbah texts by considering thematic aspects, the use of religious evidence, and the relevance of the message to everyday life. This process reflects the application of pedagogical content knowledge (PCK), namely the ability to integrate subject matter understanding with appropriate instructional strategies suited to students' characteristics. The concept of PCK emphasizes that mastery of content alone is insufficient; it must be accompanied by the ability to transform knowledge in ways that make it comprehensible to learners (Depaepe, Verschaffel, & Kelchtermans, 2013).

The core activity in the in-class phase is realized through khutbah practice conducted directly in front of the classroom. This activity positions students as active subjects who construct as well as express their knowledge in a performative form. 'During the khutbah practice session, students delivered their presentations in front of the class. Several students demonstrated confidence, clear articulation, and appropriate use of religious references. However, some students still relied heavily on written scripts and experienced difficulties in maintaining eye contact and fluency while speaking. In addition, differences in students' communication abilities were evident. Some students were able to relate religious concepts to real-life situations, while others still required guidance in organizing and presenting their ideas coherently. Therefore, I often provided additional feedback and support to help them improve their performance.'' Nizam Burhanuddin (2026)

These findings indicate that students entered the practice stage with varying levels of communication competence and presentation skills. Although the pre-class activities helped students develop conceptual understanding of the material, successful performance in khutbah practice also depended on their ability to communicate ideas effectively in front of an audience. Therefore,

practice-based learning requires continuous guidance and scaffolding to support students in developing both religious communication skills and self-confidence.

In addition to classroom discussions and khutbah practice, students were also required to complete learning tasks through Moodle. One of the activities involved the submission of mind maps that summarized key concepts related to dakwah, khutbah, and tabligh. This task encouraged students to organize information visually and demonstrate their understanding of the learning materials before proceeding to further assessment activities.

Figure 2. Moodle Assignment Feature for Mind Mapping Submission

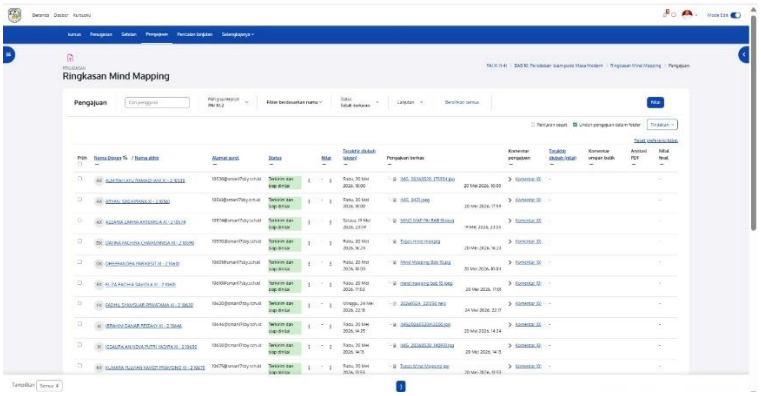


Figure 2 shows the use of Moodle's assignment feature for collecting students' mind mapping tasks. Through this activity, students translated conceptual understanding into visual representations, while the teacher was able to monitor participation and review students' work systematically through the LMS.

After the practice activity has been carried out, the next stage is evaluation. In the context of flipped learning on the khutbah material, learning evaluation does not only function to measure students' cognitive understanding, but also to assess their performative skills as well as the internalization of Islamic values. Therefore, the form of assessment used is directed toward authentic assessment, namely an assessment that requires students to demonstrate real abilities in contexts relevant to real life. According to Wiggins & Grant (1990), good assessment should represent real world challenges so that learners are encouraged to apply their knowledge rather than merely fulfill test requirements. This is further supported by Torulf Palm (2008) who emphasizes that authentic tasks are characterized by their resemblance to real life practices.

Within this framework, khutbah practice can be categorized as a form of performance-based assessment, which is a concrete type of authentic assessment that requires students to demonstrate their knowledge and skills through real

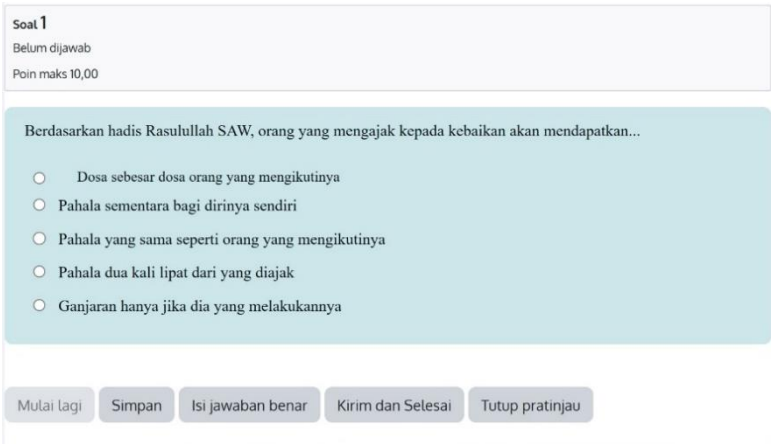
performance David Sweet (1992). Thus, the assessment of khutbah practice does not only focus on the final product, but also on the quality of the process and students' performance in delivering dakwah messages directly.

Furthermore, evaluation can be strengthened through the implementation of peer assessment, namely an assessment approach that involves students in evaluating the performance of their peers. According to (Topping, 1998), peer assessment does not only function as an evaluative tool, but also as a learning strategy that can enhance students' understanding, reflective skills, and critical thinking abilities. In the context of khutbah practice, peer assessment allows students to observe, evaluate, and reflect on aspects such as khutbah structure, accuracy of evidence, rhetorical delivery, and etiquette of presentation. Thus, evaluation is no longer one-way (with the teacher as the sole assessor), but becomes a dialogical process that promotes meaningful and collaborative learning.

In practical terms, this approach can be facilitated through features on the Moodle platform, which are specifically designed to support peer-based assessment ("Workshop Activity," 2023). This feature enables students to upload their work (for example, khutbah texts or practice videos), and then evaluate their peers' work based on criteria or rubrics that have been predetermined by the teacher. In addition, the system also provides a structured feedback mechanism as well as a grading process that combines both teacher assessment and peer assessment.

Furthermore, cognitive evaluation is conducted through the Moodle platform using the quiz feature as part of technology integration in learning ("Quiz Activity," 2025). The Islamic Religious Education teacher at SMAN 17 Surabaya utilizes the quiz feature to measure students' conceptual understanding of the requirements, pillars, and ethics of khutbah. This approach indicates a functional separation between performance-based assessment conducted through in-class khutbah practice and cognitive assessment facilitated through the LMS.

Figure 3. Moodle Quiz Feature for Cognitive Assessment



Theoretically, this evaluation model can be categorized as formative assessment, namely an assessment approach that not only aims to measure learning outcomes but also provides feedback to improve the learning process. This concept is emphasized by Black & Wiliam (2009) who state that formative evaluation is an integral part of learning because it serves as a basis for adjusting teaching strategies and enhancing students' understanding. Furthermore, Moodle-based assessment can be understood as a form of formative e-assessment, which refers to the use of digital technology to support continuous assessment processes. In this context, technology functions not merely as a technical tool, but as a pedagogical medium that enables students to receive feedback quickly and flexibly. Research in the field of e-assessment shows that the use of digital platforms can strengthen student engagement in the learning process and help teachers monitor learning progress more systematically (Pachler, Daly, Mor, & Mellar, 2010).

Unlike general learning contexts, khutbah practice in Islamic Religious Education does not only emphasize communicative aspects, but also involves normative and spiritual dimensions. Students are not merely delivering information; rather, they are engaged in normative, spiritual, and practical dimensions of dakwah that are oriented toward value internalization and the formation of students' moral character. This indicates that evaluation in Islamic Religious Education cannot be fully reduced to mere performance measurement, as it is also closely related to the internalization of values that are subjective and context-dependent.

From a pedagogical perspective, the design of in-class activities in this learning model demonstrates an integration of cognitive, affective, and psychomotor dimensions. Khutbah practice not only assesses students' mastery

of content but also develops religious communication skills, self-confidence, and the internalization of dakwah values in students' daily lives. Furthermore, from the perspective of educational psychology, students' engagement in authentic practical activities can enhance intrinsic motivation. The Self-Determination Theory developed by Edward L. Deci and Richard M. Ryan emphasizes that learning experiences which provide opportunities for autonomy, competence, and relatedness foster deeper and more sustained learning engagement (Niemiec & Ryan, 2009). Accordingly, the management of in-class activities in flipped learning-based Islamic Religious Education does not merely function as a practice space, but also as a pedagogical strategy that integrates cognitive, performative, and Islamic value dimensions. However, its effectiveness is highly dependent on students' readiness, teachers' ability to manage activities, and the continuity of integration between the pre-class and in-class phases**.**

Optimization of LMS in Supporting Learning Independence

The use of Moodle in flipped learning for the topics of Dakwah, Khutbah, and Tabligh does not merely function as a content distribution medium, but also shows a shift in function into a pedagogical instrument that contributes to the development of students' learning independence. In contrast to conventional learning, which tends to position students as passive recipients of information, the use of an LMS allows students to control the pace, timing, and learning strategies in a more flexible manner.

Based on interviews with the Islamic Religious Education teacher and observations of Moodle activity records, students were able to access learning materials independently before classroom sessions. The teacher reported that students frequently revisited curated YouTube videos when they encountered difficulties in understanding specific concepts related to dakwah, khutbah, and tabligh. In addition, Moodle activity tracking showed that students completed prerequisite learning activities before proceeding to subsequent tasks.

"Compared with previous lessons, students were more prepared when entering the classroom because they had already watched the videos uploaded in Moodle. Some students even replayed the videos several times when they did not understand certain concepts before participating in the classroom discussion." (Nizam Burhanuddin, 2026).

These findings suggest that Moodle supported the development of independent learning behaviours. Students demonstrated initiative by accessing pre-class materials autonomously, replaying instructional videos according to

their individual learning needs, and completing prerequisite learning activities before classroom sessions. Rather than directly proving an increase in learning independence, tese behaviours indicate that the LMS created learning conditions that encouraged students to regulate their own learning process.

From a theoretical perspective, this phenomenon can be explained through the concept of self-regulated learning, which emphasizes an individual's ability to plan, monitor, and evaluate their own learning process independently. Research by (Panadero, 2017b) confirms that learning environments that provide structure, feedback, and monitoring mechanisms can strengthen students' self-regulation skills in learning. In the context of LMS use, the digital structure designed by teachers through the arrangement of activities and access functions as a form of external regulation that gradually fosters the development of internal regulation in students.

Furthermore, research by Cho, Kim & Choi (2017) shows that self-regulated learning has a significant impact on the quality of learning experiences in online environments, including students' cognitive and affective engagement. The findings indicate that when students are given control over their learning process, they are not only better prepared cognitively but also demonstrate higher emotional engagement in learning. In relation to the findings of this study, the use of Moodle in flipped learning indirectly creates conditions that support the development of such self-regulation. Students are no longer fully dependent on the teacher's explanations in class, but are required to build initial understanding independently before participating in in-class activities. This reflects a transformation in students' roles from passive learners to active self-regulated learners.

However, the optimization of LMS does not automatically result in learning independence without a well-directed pedagogical design. Its effectiveness largely depends on how teachers design the learning flow, set activity prerequisites, and provide meaningful feedback. Without such design, an LMS risks reverting to being merely a digital repository of materials rather than an instrument of pedagogical transformation. Thus, the optimization of LMS in flipped learning does not lie in the number of features used, but in its ability to build a learning ecosystem that fosters self-regulation, learning responsibility, and active student engagement. In the context of Islamic Religious Education, this is particularly important because learning independence is not only related to cognitive aspects but also serves as a foundation for the

internalization of values and religious practices in students' daily lives.

CONCLUSION

This study shows that the optimization of Moodle LMS in flipped learning within Islamic Religious Education does not merely function as a content distribution medium, but transforms into a pedagogical instrument that directs students' learning pathways in a more structured and meaningful way. The main implication is the need to shift the teacher's role from a content deliverer to a designer of integrated digital learning experiences, particularly through YouTube content curation that not only emphasizes technical aspects but also scholarly validity and the values of religious moderation. Within the framework of Self-Determination Theory and self-regulated learning, a well-structured LMS design has been shown to potentially strengthen students' autonomy, engagement, and learning independence.

However, this study has limitations, as it focuses on only one school (SMAN 17 Surabaya), relies on teachers' perspectives and documents without directly exploring students' learning experiences, and has not quantitatively measured its impact on learning outcomes or motivation, making it descriptive-qualitative in nature.

In terms of contribution, this study strengthens the body of research on flipped learning in Islamic Religious Education by positioning the LMS as an integral part of pedagogical design, and by emphasizing the importance of digital content curation as a pedagogical strategy for maintaining learning quality in an era of unverified information. This study can also serve as an initial reference for the development of more adaptive, technology-based Islamic Religious Education learning.

For future research, it is recommended to broaden the subjects and contexts, employ quantitative or mixed-methods approaches to measure the impact of LMS on motivation, independence, and learning outcomes, and develop instructional design models based on international standards so that the implementation of LMS-based flipped learning can be further optimized in line with the demands of 21st-century education.

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