

Implementation of Flipped Classroom and Microlearning in Enhancing the Effectiveness of Islamic Religious Education Learning

Isna Alvinatu Reza¹, Maftuh², Imam Nur Aziz³

¹Universitas Kiai Abdullah Faqih, Gresik, Indonesia

²Universitas Kiai Abdullah Faqih, Gresik, Indonesia

³Universitas Kiai Abdullah Faqih, Gresik, Indonesia

Email: isnaalvinatureza@gmail.com

Abstract

This study examines the implementation of the flipped classroom model combined with a microlearning strategy to enhance the effectiveness of Islamic Religious Education (PAI) instruction. It is motivated by low student engagement in PAI classes, which remain dominated by conventional lecturing, and by limited face-to-face time for achieving deep understanding of religious material. The flipped classroom shifts content delivery outside the classroom via digital media, reserving class time for discussion, exploration, and application of religious values, while microlearning presents content in short, structured units that support incremental comprehension. Using a qualitative library research approach, this study analyzes journals, books, and prior research on flipped classrooms, microlearning, and PAI effectiveness through content analysis to identify patterns and draw conclusions. Findings indicate that integrating both approaches can improve conceptual understanding, active participation, learning motivation, and learner autonomy, as students independently study foundational material through short units before class, freeing face-to-face time for deeper value-based discussion. The study recommends that PAI teachers gradually integrate both models, considering digital infrastructure readiness, teacher competence in designing digital materials, and students' readiness for independent learning.

Keywords: Flipped Classroom, Microlearning, Learning Effectiveness, Islamic Religious Education

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INTRODUCTION

Islamic Religious Education (PAI) plays an important role in shaping students' character, morals, and spirituality. Through PAI, students not only learn the theory of Islam but are also taught to internalize Islamic values in their daily lives (Rafsanjani & Razaq, 2019). In practice, however, PAI instruction in many schools still relies on the lecture method, which positions the teacher as the center of attention while students remain passive recipients of the lesson. This condition causes students to be less actively engaged, provides minimal opportunity for discussion and reflection on religious values, and creates an imbalance between the limited instructional time available and the extensive scope of PAI material.

The development of information and communication technology has opened new opportunities to transform learning practices, including in PAI (Alfi et al.,

2023). Digital platforms have made it possible for the learning process to no longer be confined to a fixed classroom space and time. One effective approach is the flipped classroom model (Darmawati, 2022), in which students first study the material independently through digital media such as videos, electronic modules, or online reading materials. Classroom time can then be devoted to discussion, problem-solving, reflection, and the reinforcement of understanding.

For independent learning within a flipped classroom to run effectively, a content-delivery strategy that matches students' characteristics and the demands of modern instruction is required. One relevant approach is microlearning, a strategy that presents material in small, concise units focused on a single competency or topic (Darwin, 2025). Through microlearning, students can grasp concepts gradually, reduce cognitive load, and gain flexibility in accessing material anytime and anywhere.

Although prior studies have examined the flipped classroom and microlearning separately in general education settings (Darmawati, 2022; Jamaludin, 2023), and a smaller body of work has begun to explore their application within Islamic Religious Education (Alfi et al., 2023; Inayati et al., 2025), these studies tend to treat the two models in isolation rather than as an integrated pedagogical framework. Few, if any, have systematically synthesized how the sequencing of pre-class microlearning units and in-class flipped discussion specifically addresses the affective and values-internalization dimensions that distinguish PAI from other subjects. This gap is of particular empirical urgency given that PAI instruction, unlike purely cognitive subjects, must reconcile limited contact hours with the demand for deep moral and spiritual formation, a tension that conventional lecture-based delivery has been unable to resolve (Rafsanjani & Razaq, 2019). By synthesizing the conceptual literature on both models specifically through the lens of PAI's dual cognitive-affective objectives, this study contributes a theoretical integration that has not yet been articulated in the existing literature, offering a more empirically grounded rationale than a simple description of each model's individual benefits.

In PAI instruction, integrating the flipped classroom with microlearning can create a learning experience that is more effective, interactive, and enjoyable (Inayati et al., 2025). It is therefore important to examine the application of the flipped classroom combined with microlearning in PAI. This article aims to examine the concepts and characteristics of both learning models, analyze their implementation in PAI, and explain their contribution to improving learning effectiveness. The findings are expected to serve as a reference for teachers in developing more innovative PAI learning strategies that are responsive to the demands of instruction in the digital era, thereby supporting the achievement of educational goals that emphasize not only cognitive knowledge but also the formation of students' attitudes and behavior.

METHOD

This study employed a qualitative approach using library research, a design chosen for its suitability in analyzing and synthesizing the concepts of the flipped classroom, microlearning, and the effectiveness of PAI instruction based on various literature sources, without direct field data collection (Assyakurrohim et al., 2022). The data sources used in this study consisted of two types: primary sources, namely national and international scientific journal articles discussing the flipped classroom, microlearning, and PAI instruction published within the last ten years, and secondary sources, comprising textbooks, prior research such as undergraduate and graduate theses, and relevant education policy documents (Qomaruddin & Sa'diyah, 2024). Data were collected through a documentation technique, carried out by searching, identifying, and compiling literature relevant to the research topic through scientific databases such as Google Scholar, Garuda, and SINTA (Sari et al., 2025).

The literature search was conducted using a combination of keywords, including "flipped classroom," "microlearning," "Islamic Religious Education," and "PAI learning effectiveness," applied individually and in combination across the three databases. Sources were included if they were published within the last ten years, were peer-reviewed or from credible academic publishers, and directly addressed the flipped classroom, microlearning, or PAI instruction; sources were excluded if they lacked methodological clarity, were inaccessible in full text, or fell outside the thematic scope of the study. To support the trustworthiness of the analysis, source credibility was cross-checked against journal indexing status (e.g., SINTA accreditation, DOI availability), and emerging themes were iteratively compared across multiple sources to confirm consistency before being incorporated into the synthesis, thereby reducing the risk of selective or unsubstantiated interpretation.

The collected data were subsequently analyzed using content analysis techniques comprising four interrelated steps (Rozali, 2022). The first step involved collecting and classifying the literature according to the themes under discussion. This was followed by data reduction, in which the most relevant and credible literature was selected to ensure the analytical rigor of the study. The data were then presented in the form of thematic descriptions, allowing patterns across the reviewed sources to be more clearly identified. Finally, conclusions were drawn based on the patterns and relationships observed among the sources reviewed, thereby providing a coherent synthesis of the literature on the integration of the flipped classroom and microlearning in PAI instruction.

RESULT AND DISCUSSION

Implementation of the Flipped Classroom in Islamic Religious Education

The flipped classroom model transforms PAI instruction from a teacher-centered to a student-centered pattern (Darmayasa et al., 2023). In this model, content delivery takes place before the class meeting through various digital media, such as instructional videos, electronic modules, podcasts, or interactive presentations. As a result, students already possess prior knowledge before participating in face-to-face instruction.

During instruction, the teacher no longer dominates content delivery but instead acts as a facilitator who guides students in discussion, concept clarification, case studies, value reflection, and problem-solving related to PAI material.

For example, in the topic of praiseworthy character (akhlak terpuji), students first watch a short video on the importance of honesty before class. During the lesson, the teacher guides students to analyze instances of dishonesty occurring in the school and community environment. Students then discuss solutions grounded in Qur'anic verses and hadith, so that learning is oriented not only toward mastering the concept but also toward internalizing Islamic values.

Based on the literature reviewed, the application of the flipped classroom has been found to improve students' learning readiness, since they have already acquired initial understanding before instruction begins (Yusuf, 2025). Face-to-face time becomes more effective because it is focused on higher-order thinking (HOTS) activities, discussion, and problem-solving.

The Role of Microlearning in Supporting PAI Learning

Microlearning represents a strategy that is particularly well suited to the instruction of Islamic Religious Education (PAI), given that its relatively extensive scope of material can be broken down into simpler, more manageable learning units, thereby enabling students to gradually and progressively grasp each concept (Darmayasa et al., 2023). In practice, content is delivered in short durations, typically ranging from three to ten minutes, with each segment focusing on a single competency; such content may take the form of short videos, infographics, animations, interactive quizzes, podcasts, or digital summaries that can be readily accessed through smartphones (Jamaludin, 2023).

As an illustration, in teaching the procedures of ablution (wudu), rather than presenting the material through a single lengthy video, a teacher may divide it into several shorter segments, namely the definition of wudu, its conditions and pillars, its recommended acts (sunnah), the matters that invalidate it, and the correct sequence of its movements. This gradual presentation of material allows students to understand each concept without being burdened by excessive cognitive load, while also enabling them to revisit the content at any time, thereby supporting a more independent learning process. Findings from the existing literature further suggest that microlearning enhances students' retention, as information is delivered in smaller and more digestible segments, in contrast to conventional instruction that tends to present large volumes of material all at once.

Integration of the Flipped Classroom and Microlearning in PAI Learning

Learning effectiveness increases when the flipped classroom is combined with microlearning (Wicaksono & Rahayu, 2025). The two approaches complement one another. Prior to instruction, the teacher develops microlearning content in the form of short videos or digital modules, which students' study independently according to their available time. When entering class, the teacher no longer explains the material from the beginning but instead confirms students' understanding through discussion, question-and-answer sessions, group presentations, or case-study resolution related to everyday life. For example, in the

topic of religious moderation, students first study the microlearning material independently; in class, they then discuss instances of intolerance occurring in society, analyze their causes, and formulate solutions grounded in moderate Islamic values.

This learning model encourages students to think more actively, express opinions, respect differences, and connect religious concepts with the realities of daily life (Putra & Fauzi, 2024). These activities demonstrate that PAI instruction is oriented not only toward content mastery but also toward character formation and the development of critical-thinking skills.

Table 1. Comparative Conceptual Characteristics of the Flipped Classroom and Microlearning

Aspect	Flipped Classroom	Microlearning
Locus of content delivery	Outside the classroom, via digital media prior to the session	Delivered anytime/anywhere in short, self-contained units
Role of the teacher	Facilitator of discussion, clarification, and reflection in class	Designer of concise, single-competency digital content
Role of the student	Arrives with prior knowledge; engages actively in class	Studies incrementally at an individually managed pace
Typical content format	Instructional videos, e-modules, podcasts, interactive slides	3–10-minute segments: short videos, infographics, quizzes
Primary contribution	Reallocates face-to-face time to HOTS, discussion, practice	Reduces cognitive load; supports repeatable, gradual mastery
Illustrative PAI topic	Akhlak terpuji (praiseworthy character) case discussion	Wudu procedures broken into definition, conditions, sunnah, sequence

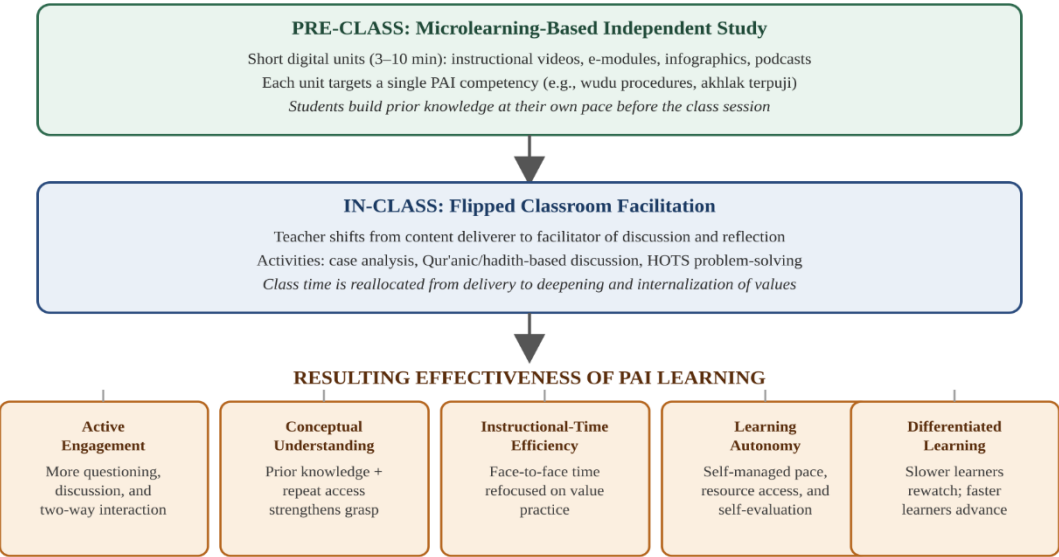


Figure 1. Conceptual model of Flipped Classroom–Microlearning integration and its contribution to the effectiveness of Islamic Religious Education (PAI) learning (synthesized from the reviewed literature)

Table 2. Illustrative Implementation Examples Cited in the Manuscript

PAI Topic	Pre-Class Microlearning Activity	In-Class Flipped Classroom Activity
Akhlak terpuji (praiseworthy character)	Students watch a short video on the importance of honesty	Teacher guides analysis of dishonesty cases and Qur'anic/hadith-based solutions
Wudu (ablution) procedures	Material split into definition, conditions/pillars, sunnah, invalidators, sequence	Teacher confirms understanding and clarifies misconceptions through practice
Religious moderation	Students study microlearning material on moderation independently	Class discusses real cases of intolerance, causes, and moderate solutions

Contribution to the Effectiveness of Islamic Religious Education Learning

Based on the analysis of the reviewed studies, the application of the flipped classroom and microlearning contributes to the effectiveness of PAI learning in several interrelated ways (Saputra & Anita, 2025). First, this combination increases student engagement, as students become more active in asking questions, discussing, and expressing their opinions because they have already studied the material prior to instruction; learning activity is thus no longer dominated by the teacher but instead involves more intensive two-way interaction. Second, it improves conceptual understanding, since independent learning prior to instruction equips students with prior knowledge that facilitates classroom discussion, while the opportunity to revisit microlearning material further helps strengthen their grasp of religious concepts. Third, it improves the efficiency of instructional time, as face-to-face sessions can be optimally directed toward deepening material, reflecting on values, practicing acts of worship, and resolving contextual problems, thereby rendering the learning process more effective than instruction that relies entirely on lectures. Fourth, this model develops learning autonomy by encouraging students to take responsibility for their own learning process, accustoming them to managing study time, accessing learning resources independently, and evaluating their own understanding. Fifth, it supports differentiated learning, since the flexibility with which material can be studied allows students with differing abilities to adjust their own pace those who have not yet grasped the material may rewatch the videos, while faster learners may proceed to subsequent topics.

Table 3. Synthesis Matrix-Contribution of the Flipped Classroom–Microlearning Integration to PAI Learning Effectiveness

Effectiveness Indicator	Underlying Mechanism (synthesized from the literature)	Key Source(s)
Active engagement	Prior independent study frees class time for two-way discussion rather than one-way lecture	Saputra & Anita, 2025
Conceptual understanding	Prior knowledge plus repeatable access to microlearning units reinforces grasp of concepts	Saputra & Anita, 2025; Yusuf, 2025

Effectiveness Indicator	Underlying Mechanism (synthesized from the literature)	Key Source(s)
Instructional-time efficiency	Face-to-face time is redirected toward deepening, value reflection, and practice	Saputra & Anita, 2025
Learning autonomy	Students manage their own pace, access resources independently, and self-evaluate	Saputra & Anita, 2025
Differentiated learning	Flexible pacing lets slower learners revisit content and faster learners progress	Saputra & Anita, 2025; Wicaksono & Rahayu, 2025

These findings indicate that the implementation of the flipped classroom combined with microlearning aligns with the twenty-first-century learning paradigm, which positions students as active subjects in the learning process (Tejawati et al., n.d.). Beyond enhancing the effectiveness of content delivery, this approach also fosters critical thinking, communication, collaboration, creativity, and digital literacy skills that are increasingly indispensable in the era of educational transformation. Within the specific context of PAI, the integration of both models provides broader space for the internalization of Islamic values, since material studied independently prior to instruction allows classroom time to be focused on discussion, reflection, case analysis, and the practical application of Islamic teachings in daily life (Rasyidi, 2024). Accordingly, PAI learning does not stop at the cognitive dimension alone but extends to the affective and psychomotor dimensions as well, through learning experiences that are more meaningful and holistic.

These findings are largely consistent with Saputra and Anita (2025) and Yusuf (2025), who similarly reported gains in engagement and conceptual mastery when flipped and microlearning strategies were applied in digital-era instruction; the present synthesis extends this line of work by showing that the same mechanisms operate even more saliently in PAI, where affective and value-based outcomes carry equal weight to cognitive ones. At the same time, this study qualifies rather than simply confirms prior claims: whereas earlier work (Wicaksono & Rahayu, 2025) frames microlearning primarily as a tool for reducing cognitive load, the present analysis suggests that within PAI its greater contribution may lie in freeing classroom time for values reflection, a dimension less emphasized in general-education literature. This suggests that the transferability of flipped-microlearning models from secular to religious-education contexts is not automatic but requires reinterpretation of what "effectiveness" means, an insight that has not been made explicit in the studies reviewed.

Nevertheless, the success of implementing the flipped classroom and microlearning is influenced by several contributing factors, including teachers' readiness to design engaging digital media, the availability of devices and internet access, and students' motivation to engage in independent study prior to class. Strengthening teachers' digital competence, providing adequate learning infrastructure, and securing institutional support are therefore essential prerequisites for the optimal application of this model (Muthmainnah et al., 2025). Overall, the findings suggest that the integration of the flipped classroom and

microlearning constitutes a relevant instructional innovation for enhancing the effectiveness of PAI learning. Both models are capable of fostering a learning process that is more active, flexible, contextual, and oriented toward character formation one that is consistent with the demands of education in the digital era while more comprehensively supporting the achievement of PAI's educational objectives.

CONCLUSION

Based on the library research conducted, it can be concluded that integrating the flipped classroom learning model with the microlearning strategy has significant potential to improve the effectiveness of Islamic Religious Education (PAI) learning. Shifting content delivery outside the classroom through short, structured digital learning units enables students to understand foundational material independently and gradually, so that face-to-face time can be optimized for discussion, deepening, and the internalization of religious values that have often been neglected due to the dominance of conventional lecture methods.

The combination of these two models has been shown, conceptually, to be capable of driving improvements in conceptual understanding, active participation, learning motivation, and learning autonomy among students in PAI instruction. This model thus offers an alternative solution to the limited face-to-face time and low level of active student engagement that have long been fundamental issues in PAI learning.

Nevertheless, the successful implementation of the flipped classroom and microlearning cannot be separated from several important prerequisites: the readiness of digital infrastructure within educational institutions, PAI teachers' competence in designing and packaging engaging and effective digital learning materials, and students' readiness to carry out independent learning. Therefore, the integration of these two models is recommended to be implemented gradually and in a planned manner, accompanied by mentoring and training for teachers, so that the goal of improving the effectiveness of PAI learning can be achieved optimally.

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