



Deep Learning Based Islamic Religious Education Curriculum Development: A Madrasah Case Study

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ABSTRACT

Curriculum development in Islamic Religious Education (PAI) is an important component in supporting the implementation of the Merdeka Curriculum and the integration of the Deep Learning approach in madrasahs. This study aims to analyze the development and implementation of a PAI curriculum based on the Deep Learning approach, identify supporting and inhibiting factors, and formulate a case-derived provisional framework for curriculum development. A qualitative case study was conducted at MTs Ma'arif An-Naura, Paseh District, Bandung Regency, West Java, Indonesia, with data collected from May to June 2026. The participants consisted of the Vice Principal for Curriculum Affairs, two PAI teachers, and three students representing Grades VII, VIII, and IX. Data were collected through classroom observations, semi-structured interviews, and document analysis and were analyzed using the interactive model of Miles, Huberman, and Saldaña. The findings indicate that curriculum development involved student needs analysis, curriculum planning, integration of the Deep Learning principles, learning implementation, assessment, and curriculum evaluation and continuous improvement. The implementation of mindful, meaningful, and joyful learning was supported by institutional leadership, teacher collaboration, student participation, learning resources, and professional development, while differences in students' characteristics and abilities, limited instructional time, and the need for continuous teacher development presented challenges. Based on the empirical findings, the study formulates a case-derived provisional framework consisting of six interconnected stages: student needs analysis, curriculum planning, integration of mindful-meaningful-joyful learning, learning implementation, assessment, and evaluation and continuous improvement. The framework positions curriculum development as the foundation for implementing Deep Learning in PAI.

INTRODUCTION

Curriculum development is a fundamental component of educational practice because it determines how educational goals, learning content, instructional strategies, and assessment are organized to respond to learners and their contexts. Curriculum reform in Indonesia has increasingly emphasized flexibility, student-centered learning, and the development of competencies beyond the transmission of subject content. Within the implementation of the Merdeka Curriculum, educational institutions are expected to adapt curriculum planning and learning practices to students' characteristics, institutional conditions, and learning needs. This orientation places curriculum



development not merely as an administrative activity but as a continuous process of designing, implementing, evaluating, and improving learning.

The development of the deep-learning approach further strengthens this orientation. In the Indonesian educational context, deep learning is understood as a pedagogical approach emphasizing mindful learning, meaningful learning, and joyful learning. The approach encourages students to engage consciously in learning, connect knowledge with relevant contexts, and participate in learning experiences that are positive and engaging. The official *Pembelajaran Mendalam: Menuju Pendidikan Bermutu untuk Semua* document positions deep learning as an approach intended to strengthen the quality of learning through meaningful and holistic learning experiences (Suyanto et al., 2025).

The relevance of this approach is particularly important in Islamic Religious Education (PAI). PAI is not limited to the acquisition of religious knowledge but also involves the development of values, attitudes, character, and the ability to apply Islamic teachings in everyday life. Consequently, PAI curriculum development needs to provide opportunities for students to understand religious concepts, reflect on their meaning, connect them with real-life situations, and apply Islamic values in appropriate contexts. A curriculum that focuses predominantly on content transmission may provide students with conceptual information without sufficiently creating opportunities for reflective, contextual, and participatory learning. The existing manuscript similarly identifies the need to move PAI learning beyond predominantly teacher-centered and content-oriented practices toward learning that is more reflective, contextual, and student-centered.

Recent studies have begun to examine the implementation of deep learning in Islamic Religious Education within the Merdeka Curriculum. Ependi, Baharudin, and Pahrudin (2026) examined the implementation of deep learning in PAI and reported increased student engagement in Islamic religious education classes. Herlina, Beliana, and Wulandari (2026) analyzed deep-learning implementation in PABP-based learning and highlighted its contribution to learning quality. Meanwhile, Irfanuddin, Selamat, and Widodo (2025) examined deep learning in PAI and reported learning practices characterized by greater activity, contextualization, and student-centered interaction. These studies provide important evidence that deep-learning principles are increasingly being applied in religious education.

However, the existing literature leaves several aspects insufficiently explored. Empirically, previous studies have tended to emphasize classroom implementation and learning practices rather than the broader process through which curriculum development supports such implementation. Conceptually, the relationship between needs analysis, curriculum planning, the integration of mindful–meaningful–joyful learning, assessment, and curriculum evaluation has not been sufficiently articulated as an interconnected process. Contextually, studies specifically examining this process in Islamic junior secondary schools or madrasahs implementing the Merdeka Curriculum remain limited. Methodologically, there is also a need for qualitative case evidence that traces curriculum development from institutional planning through classroom implementation and subsequent evaluation rather than examining only one component of the learning process. The previous version of this manuscript identified a similar gap but did not sufficiently distinguish these dimensions.

The present study addresses this gap by examining curriculum development as the foundation of deep-learning implementation in PAI, rather than treating deep learning solely as a collection of classroom teaching techniques. The study focuses on how student needs and institutional conditions inform curriculum planning; how mindful, meaningful, and joyful learning are incorporated into PAI learning; how assessment and evaluation function within the process; and how supporting and inhibiting conditions influence implementation. The study is situated at MTs Ma'arif An-Naura, Bandung Regency, providing an in-depth case of curriculum development within a madrasah context.

The theoretical framing of the study draws primarily on Tabá's curriculum-development theory, which emphasizes learner needs as an important starting point for curriculum development, and on Ornstein and Hunkins' view of curriculum as a systematic process involving planning, implementation, evaluation, and refinement. The study also uses Understanding by Design to interpret the alignment between learning objectives, learning activities, and assessment, while Fullan's educational-change perspective is used to understand the role of leadership, teacher collaboration, professional development, and institutional conditions in implementing curriculum change. These perspectives provide an analytical lens for interpreting the empirical data rather than being introduced only after the findings have been established. The state of the art can be summarized as follows:

Tabel 1 State of The Art

Previous study	Main focus	Contribution	Remaining limitation
Ependi et al. (2026)	Deep learning in PAI under the Merdeka Curriculum	Examines student engagement and classroom implementation	Does not comprehensively trace curriculum development
Herlina et al. (2026)	Deep learning in PABP	Examines implementation and learning quality	Limited attention to curriculum-development processes
Irfanuddin et al. (2025)	Deep learning in PAI	Shows active, contextual, student-centered learning	Focus remains primarily on instructional implementation
Present study	PAI curriculum development based on deep learning	Connects needs analysis, curriculum planning, deep-learning integration, implementation, assessment, and evaluation	Case-derived framework requiring further testing in other contexts

The comparison indicates that the distinctive focus of the present study is not simply whether deep learning is implemented in the classroom, but how curriculum development provides the foundation for its implementation. This distinction constitutes the principal research gap addressed by the study.

Based on the identified gap, this study addresses three research questions: 1) How is the PAI curriculum developed and implemented through the deep-learning approach within the Merdeka Curriculum at MTs Ma'arif An-Naura. 2) What factors support and inhibit the development and implementation of the deep-learning-based PAI curriculum. 3) How can the empirical findings be organized into a case-derived provisional framework for deep-learning-based PAI curriculum development?

Accordingly, this study aims to analyze the development and implementation of the PAI curriculum based on the deep-learning approach within the Merdeka Curriculum at MTs Ma'arif An-Naura, identify the supporting and inhibiting factors influencing its implementation, and formulate a case-derived provisional framework based on the empirical findings.

The contribution of this study lies in positioning curriculum development as the foundation of deep-learning implementation in PAI. Rather than proposing deep learning as an isolated instructional strategy, the study traces its relationship with needs analysis, curriculum planning, classroom implementation, assessment, and continuous evaluation. The resulting framework is presented cautiously as a case-derived provisional framework, not as a validated universal model. Further research across different madrasah contexts will be needed to examine its transferability and validity.

METHODS

This study employed a qualitative case study design to examine the development and implementation of the Islamic Religious Education (PAI) curriculum based on the Deep Learning approach within the Merdeka Curriculum. A qualitative approach was selected because the study aimed to obtain an in-depth understanding of curriculum development processes, learning implementation, assessment, evaluation, and the factors supporting and inhibiting the implementation of the Deep Learning approach within the natural context of the madrasah.

The research was conducted at MTs Ma'arif An-Naura, Bandung Regency. The site was selected purposively because the madrasah implements the Merdeka Curriculum and provides a relevant context for examining the development and implementation of a Deep Learning-based PAI curriculum. Data collection was conducted from May to June 2026.

The participants were selected using purposive sampling based on their direct involvement in curriculum development and PAI learning. The study involved six participants, consisting of two PAI teachers, one vice principal responsible for curriculum affairs, and three students representing grades VII, VIII, and IX, with one student selected from each grade level. The vice principal and PAI teachers provided information concerning curriculum planning, curriculum implementation, assessment, evaluation, and institutional factors influencing the implementation of Deep Learning. The student participants provided complementary information regarding their learning experiences, participation, engagement, and perceptions of PAI learning.

Data were collected through semi structured interviews, classroom observations, and documentation. The data collection process was conducted during May and June 2026. Semi-structured interviews were conducted with the vice principal for curriculum affairs, two PAI teachers, and three student participants. The interviews explored the development of the PAI curriculum, identification of student needs, curriculum planning, integration of mindful, meaningful, and joyful learning, learning implementation, assessment, evaluation, and supporting and inhibiting factors. Classroom observations were conducted to examine the implementation of the PAI curriculum in actual learning situations. The observations focused on student participation, teacher–student interaction, learning activities, contextualization of PAI materials, student reflection, and the implementation of mindful, meaningful, and joyful learning principles. Documentation was used to complement the interview and observation data. The documents included the Kurikulum Operasional Madrasah (KOM), Capaian Pembelajaran (CP), Alur Tujuan Pembelajaran (ATP), teaching modules, assessment instruments, and other relevant curriculum documents. The research instruments consisted of a semi-structured interview guide, observation guide, field notes, audio recording equipment, and a documentation checklist. The instruments were developed based on the research questions and the theoretical framework of the study.

The data were analyzed using an interactive qualitative analysis process consisting of data condensation, data display, and conclusion drawing and verification. First, the interview data were transcribed and combined with observation notes and relevant documentary evidence. The researchers then condensed the data by selecting and organizing information relevant to the research questions. The data were subsequently coded into thematic categories, including student needs analysis, curriculum planning, integration of Deep Learning principles, learning implementation, assessment, curriculum evaluation, supporting factors, and inhibiting factors. The coded data were then organized into thematic displays to identify patterns and relationships among the findings. The researchers compared information obtained from the different participants and data-collection techniques to identify consistencies and differences. Conclusions were then drawn and continuously verified by referring to the empirical evidence, research questions, and theoretical framework. The findings were subsequently organized into a case-derived provisional framework describing the

development and implementation of the Deep Learning-based PAI curriculum. The credibility of the findings was strengthened through triangulation of data sources and data-collection techniques. Data-source triangulation was conducted by comparing information obtained from the vice principal, PAI teachers, and students from grades VII, VIII, and IX. Method triangulation was conducted by comparing interview findings with classroom observations and relevant curriculum documents. The researchers also repeatedly reviewed interview transcripts, observation notes, and documentary evidence to ensure consistency between the empirical data and the interpretations. The resulting framework was interpreted within the specific context of MTs Ma'arif An-Naura and is therefore presented as a case-derived provisional framework, rather than a universally validated model.

The research was conducted by considering ethical principles in qualitative research. Participants were informed about the purpose and procedures of the study before data collection. Participation was voluntary, and the information obtained through interviews and observations was used for academic purposes. The identity and personal information of the participants were protected in reporting the research findings.

RESULTS AND DISCUSSION

Development and Implementation of the PAI Curriculum through the Deep Learning Approach

The findings indicate that the development of the Islamic Religious Education (PAI) curriculum at MTs Ma'arif An-Naura is carried out by referring to the Merdeka Curriculum while adapting its implementation to students' needs, characteristics, and institutional conditions. The curriculum development process does not merely involve the adoption of national curriculum policies but also includes a process of identifying student needs, formulating learning objectives, preparing learning devices, implementing learning activities, and conducting evaluation.

The vice principal responsible for curriculum affairs explained that curriculum development begins by considering students' needs and conditions before proceeding to the formulation of learning objectives and learning devices. This process indicates that curriculum development at the madrasah is oriented toward contextual adaptation rather than merely administrative compliance. The development process also involves several institutional actors. The head of the madrasah provides policy direction, the vice principal for curriculum affairs coordinates the process, while teachers are responsible for designing and implementing learning activities according to students' needs.

The findings further show that the identification of student needs is conducted through classroom observation, initial assessment, examination of learning outcomes, and attention to differences in students' abilities, interests, and characteristics. The information obtained from this process becomes a consideration for teachers in selecting learning methods and designing learning activities. This finding demonstrates that student characteristics function as an important basis for curriculum adaptation.

In the planning stage, teachers begin by referring to the Capaian Pembelajaran (CP) and subsequently formulate learning objectives and the Alur Tujuan Pembelajaran (ATP). These components are then translated into teaching modules containing learning objectives, activities, methods, media, and assessment. The teachers reported that the sequence of learning activities is arranged gradually, from relatively simple to more complex material, while considering students' different levels of understanding.

The development process reflects the learner-centered orientation of the Merdeka Curriculum. Teachers have greater flexibility to adjust learning methods, media, and classroom activities according to students' conditions. Rather than positioning the curriculum as a fixed set of materials, the curriculum is treated as a framework that can be adapted to the learning context.

From the perspective of Taba's curriculum development theory, these findings demonstrate the importance of beginning curriculum development with an understanding of learner needs. The identification of students' abilities, interests, and learning difficulties provides a basis for determining objectives and selecting appropriate learning experiences. Thus, the curriculum development process at MTs Ma'arif An-Naura demonstrates characteristics of a needs-oriented approach.

The findings are also consistent with the systemic perspective of Ornstein and Hunkins, in which curriculum development involves interconnected processes of planning, implementation, assessment, and evaluation. At MTs Ma'arif An-Naura, curriculum development does not stop at the preparation of curriculum documents but continues through classroom implementation and the use of evaluation results to improve subsequent learning.

Furthermore, the alignment among learning objectives, learning activities, and assessment can be interpreted through the perspective of Understanding by Design (UbD). Teachers begin with the expected learning outcomes, translate them into learning objectives, design learning activities, and determine assessment procedures. Although the teachers do not explicitly identify this process as UbD, the empirical findings demonstrate an alignment-oriented planning pattern.

The findings therefore suggest that the implementation of Deep Learning in PAI is supported by curriculum planning that connects student needs, learning objectives, learning experiences, and assessment. Curriculum development functions not merely as an administrative preparation stage but as the foundation for creating learning experiences that are more responsive, contextual, and oriented toward students' deeper understanding.

Integration of Mindful, Meaningful, and Joyful Learning in PAI

The findings indicate that the implementation of the Deep Learning approach in PAI at MTs Ma'arif An-Naura is reflected in the integration of three interconnected principles: mindful learning, meaningful learning, and joyful learning. These principles are not treated as separate teaching techniques but are incorporated into learning planning and classroom activities according to the characteristics of the material and students' learning needs.

Mindful learning is implemented by encouraging students to become more aware, focused, and actively involved in the learning process. The vice principal explained that teachers generally introduce learning objectives at the beginning of the lesson and provide opportunities for students to ask questions, express opinions, and reflect on what they have learned. This practice indicates that students are encouraged to understand the purpose of learning rather than merely receive information from the teacher.

The PAI teacher explained that mindful learning is supported through introductory activities, learning objectives, and stimulating questions. Teachers use questions related to students' prior experiences to encourage them to think about the topic before entering the main learning activities. At the end of the lesson, students are given opportunities to reflect on what they have understood, what remains difficult, and what benefits they obtain from the learning process.

The student responses support these findings. Students reported that teachers usually explain the material and learning objectives at the beginning of the lesson and provide opportunities to ask questions and express opinions. Students also indicated that reflection activities help them recognize which parts of the material they have understood and which parts remain difficult.

These findings demonstrate that mindful learning at the madrasah is manifested through learning orientation, attention, active participation, questioning, and reflection. Students are positioned as active participants who are expected to recognize their own learning process. This finding supports the Deep Learning orientation toward conscious and reflective learning experiences.

Meaningful learning is implemented by connecting PAI concepts with situations and experiences that students encounter in their daily lives. Rather than presenting religious knowledge

solely as theoretical content, teachers provide contextual examples related to students' behavior at school, at home, and in their social environment.

The PAI teacher explained that topics such as honesty and responsibility are connected to students' everyday experiences. For example, honesty can be discussed in relation to completing assignments or communicating with others, while responsibility can be associated with students' responsibilities at school and at home. Teachers also use simple cases or problems to encourage students to consider how Islamic values can be applied in real situations.

The students confirmed that contextual examples make PAI material easier to understand. They reported that learning becomes more understandable when teachers provide real-life examples and explain concepts using language that is easy to follow. Students also identified discussion, video, and group activities as learning experiences that help them understand the material.

These findings indicate that meaningful learning is developed through the connection between religious concepts and students' lived experiences. Such contextualization allows students to move beyond memorizing religious concepts toward understanding their practical significance.

The finding can be interpreted through Taba's curriculum development perspective, particularly the emphasis on considering learner needs and experiences when designing learning experiences. When learning materials are connected to students' contexts, curriculum content becomes more relevant to their developmental and social realities.

Joyful learning is reflected in efforts to create a comfortable, engaging, and varied learning environment. The findings show that teachers do not rely exclusively on lectures but use discussion, group work, question-and-answer activities, educational games, presentations, and digital learning media.

The PAI teacher stated that variations in teaching methods are used to prevent learning from becoming monotonous. Digital media, images, videos, group activities, and discussions are selected according to the topic and learning objectives. The purpose is not simply to entertain students but to create a positive learning atmosphere while maintaining the achievement of learning objectives.

Students' responses reinforce this finding. Students reported greater interest when learning involved group activities, discussion, digital media, and other forms of active participation. They also explained that prolonged teacher explanation could sometimes make learning feel boring, whereas interactive activities tend to make the classroom more active and enjoyable.

Thus, joyful learning at MTs Ma'arif An-Naura does not mean reducing academic demands or turning learning into entertainment. Instead, it involves creating positive emotional conditions and varied learning experiences that encourage student participation. This finding demonstrates that the three Deep Learning principles are interconnected: students' awareness and focus (*mindful*) are strengthened through relevant learning experiences (*meaningful*), while positive and engaging classroom conditions (*joyful*) encourage students to participate actively.

Overall, the findings demonstrate that the integration of mindful, meaningful, and joyful learning provides a pedagogical foundation for implementing Deep Learning in PAI. The approach encourages students to focus on learning objectives, connect Islamic values with everyday experiences, participate in interactive activities, and reflect on their learning. Therefore, Deep Learning at the madrasah is reflected not simply in the use of particular teaching methods but in the way curriculum planning and classroom activities are organized to promote deeper and more relevant learning experiences.

Assessment and Curriculum Evaluation

The findings show that assessment and evaluation are integral components of the development and implementation of the PAI curriculum based on the Deep Learning approach at MTs Ma'arif An-Naura. Assessment is not conducted solely at the end of the learning process but is

also used during learning to identify students' understanding, difficulties, participation, and learning progress. The findings indicate that assessment functions both as a means of measuring learning achievement and as a basis for improving subsequent learning activities.

The PAI teacher explained that assessment is conducted through various techniques, including questioning, observation, assignments, group discussions, presentations, and written tests. The selection of assessment techniques is adjusted to the learning objectives. Knowledge can be assessed through assignments and written evaluations, while students' skills can be observed through learning activities, discussions, and presentations. Students' attitudes are observed during the learning process.

The vice principal for curriculum affairs similarly explained that the madrasah evaluates PAI learning by considering classroom implementation, student learning outcomes, teacher reports and reflections, and monitoring of learning devices. These sources of information are used to determine whether learning activities have been implemented according to the planned objectives.

The findings also demonstrate that assessment results are used as feedback for improving learning. When students experience difficulties in understanding particular material, teachers provide additional explanations, modify learning methods, or design follow-up activities. Thus, assessment is connected to curriculum improvement rather than functioning merely as a mechanism for assigning grades.

The student responses provide complementary evidence. Students reported that teachers use questions, assignments, tests, and requests to explain previously learned material to determine their understanding. Students also indicated that difficulties often arise when learning materials contain many concepts or unfamiliar terms and that simpler explanations and concrete examples can facilitate understanding.

These findings demonstrate an assessment pattern that is consistent with the principles of Deep Learning because assessment is used to identify students' learning conditions and support further learning. The use of multiple assessment techniques also allows teachers to obtain information about different dimensions of student learning rather than relying exclusively on written tests.

From the perspective of Understanding by Design (UbD), the findings indicate an alignment between learning objectives, learning activities, and assessment. Teachers begin by considering the expected learning outcomes and subsequently select learning activities and assessment techniques that correspond to those objectives. This alignment helps ensure that assessment reflects the competencies that students are expected to develop.

The findings can also be interpreted through Ornstein and Hunkins' curriculum perspective, which views curriculum as an interconnected process involving planning, implementation, assessment, and evaluation. At MTs Ma'arif An-Naura, assessment results and classroom observations are used as inputs for reviewing the effectiveness of learning and making adjustments to subsequent planning.

Evaluation therefore functions as a feedback mechanism within curriculum development. Rather than representing the final stage of a linear process, evaluation provides information that can be used to modify learning strategies, clarify difficult material, and adjust subsequent planning according to students' needs. This finding supports the interpretation of curriculum development as a continuous and cyclical process.

Supporting and Inhibiting Factors in the Implementation of the Deep Learning Based PAI Curriculum

The findings indicate that the development and implementation of the Deep Learning-based PAI curriculum at MTs Ma'arif An-Naura are influenced by both institutional and classroom-level factors. The supporting factors include leadership support, teacher collaboration, teacher willingness

to develop learning practices, student participation, and the availability of learning media and facilities. At the same time, the main inhibiting factors include limited instructional time, differences in students' abilities, and differences in teachers' readiness and understanding of the Deep Learning approach.

One of the main supporting factors is the commitment and support of the madrasah leadership. The vice principal for curriculum affairs explained that the head of the madrasah and the curriculum team provide direction, motivation, monitoring, and support for the implementation of learning. This leadership support creates an institutional environment that allows teachers to develop learning activities according to students' needs.

Teacher collaboration also contributes to the implementation process. Curriculum development is not conducted individually but involves the head of the madrasah, the vice principal for curriculum affairs, PAI teachers, and other teachers. Discussion, meetings, sharing of experiences, and professional activities provide opportunities for teachers to exchange ideas concerning learning methods and the implementation of Deep Learning principles.

Teacher willingness to improve learning practices is another supporting factor. The PAI teacher indicated that teachers are generally prepared to apply the approach, particularly because they are already familiar with active learning activities such as discussion, group work, questioning, and presentation. However, this readiness continues to develop as teachers gain greater understanding and experience.

Student participation is also an important factor. The findings show that students tend to be more engaged when learning involves interactive and varied activities. Students reported greater interest in discussion, group work, digital media, and learning activities that allow them to express their opinions. This indicates that student engagement can strengthen the implementation of Deep Learning in PAI.

The availability of learning media and facilities also supports teachers in creating varied learning experiences. Images, videos, digital materials, and other learning media can help teachers provide contextual and engaging activities. Nevertheless, the effectiveness of these resources depends on their relevance to learning objectives and the conditions of the classroom.

These findings can be interpreted through Fullan's educational change perspective, which emphasizes that successful educational change is influenced by factors such as leadership, collaboration, teacher capacity, and institutional support. The implementation of Deep Learning at MTs Ma'arif An-Naura illustrates that curriculum change is not solely dependent on teachers' individual practices but is also influenced by the broader organizational environment.

The findings identify limited instructional time as one of the main obstacles to implementing Deep Learning. Meaningful and reflective learning requires sufficient time for students to think, discuss, express opinions, and conduct reflection. Teachers explained that the available instructional time can sometimes limit the opportunity to conduct these activities comprehensively. Consequently, teachers need to select and organize activities carefully according to the learning objectives.

Another obstacle is the difference in students' abilities. Students do not have the same level of prior knowledge, learning speed, or understanding. Some students can understand material relatively quickly, while others require repeated explanations and additional assistance. These differences require teachers to adopt flexible learning strategies and provide additional support for students who experience difficulties.

The third factor concerns teacher readiness and understanding. Although teachers are generally willing to implement Deep Learning, the level of understanding is not necessarily uniform. The vice principal indicated that some teachers still need to strengthen their understanding of the concept and develop greater consistency in applying mindful, meaningful, and joyful learning.

The need for teacher training and mentoring therefore emerges as an important issue. The madrasah provides support through discussions, meetings, experience sharing, and training when available. However, continuous professional development remains necessary so that teachers can translate the conceptual principles of Deep Learning into systematic curriculum planning and classroom practices.

The findings indicate that the implementation of Deep Learning is therefore not free from practical constraints. The approach requires teachers to balance the ideal of deep, contextual, and engaging learning with limited instructional time, diverse student abilities, and varying levels of teacher preparedness.

From Fullan's perspective, these constraints demonstrate that curriculum innovation requires more than the introduction of a new educational concept. Sustainable implementation depends on developing teacher capacity, maintaining collaborative support, and providing institutional conditions that enable teachers to adapt the innovation to their context.

Overall, the supporting and inhibiting factors demonstrate that the development of a Deep Learning-based PAI curriculum is shaped by an interaction between institutional support and classroom realities. Leadership, collaboration, teacher commitment, student participation, and learning resources provide important foundations, while time limitations, student diversity, and differences in teacher understanding require continuous adaptation and professional development.

Taken together, the findings demonstrate that the development and implementation of the Deep Learning-based PAI curriculum at MTs Ma'arif An-Naura constitute an interconnected process rather than a set of isolated instructional practices. Curriculum development begins with the identification of students' needs and the alignment of learning objectives, activities, and assessment; its classroom implementation is reflected in the integration of mindful, meaningful, and joyful learning; assessment functions as a feedback mechanism for subsequent instructional improvement; and the sustainability of implementation is shaped by institutional support, teacher capacity, student participation, and practical constraints. These findings also reveal that Deep Learning is not merely associated with the use of particular teaching methods, but with the coherence among curriculum planning, learning experiences, assessment, and the institutional conditions that support their implementation. To provide an integrated overview of these empirical patterns and their theoretical interpretation, the main findings are summarized in Table 2.

Table 2. Summary of Findings on the Development and Implementation of the Deep Learning-Based PAI Curriculum

Research Dimension	Key Empirical Findings	Theoretical Interpretation	Implications for Deep Learning
Curriculum Development and Planning	Curriculum development refers to the Merdeka Curriculum but is adapted to students' needs, characteristics, and institutional conditions. Student needs are identified through classroom observation, initial assessment, learning outcomes, and differences in ability and interest. CP is translated into learning objectives, ATP, teaching modules, learning activities, media, and assessment.	Taba: curriculum development begins with learner needs and experiences. Ornstein & Hunkins: curriculum operates as an interconnected process of planning, implementation, assessment, and evaluation. UbD: learning outcomes, activities, and assessment demonstrate an alignment-oriented planning pattern.	Deep Learning requires curriculum planning that connects learner needs, expected outcomes, learning experiences, and assessment rather than treating curriculum as merely an administrative document.

Mindful Learning	Teachers communicate learning objectives, use stimulating questions, activate prior experience, encourage questioning and opinion-sharing, and provide opportunities for reflection. Students are encouraged to recognize what they understand and what remains difficult.	Reflects conscious, focused, participatory, and reflective learning in which students recognize both the purpose and process of their learning.	Deep Learning is strengthened when students become aware of learning goals, actively engage in the learning process, and reflect on their understanding.
Meaningful Learning	PAI concepts are connected to students' everyday experiences at school, home, and in social life. Religious values such as honesty and responsibility are discussed through contextual examples and practical situations.	Taba: learning experiences become more relevant when curriculum content is related to learners' needs, experiences, and social contexts.	Students move beyond memorizing religious concepts toward understanding their relevance and application in everyday life.
Joyful Learning	Teachers employ varied methods, including discussion, group work, question-and-answer activities, presentations, educational games, images, videos, and digital media. Students report greater interest in interactive activities than in prolonged teacher explanation.	Positive emotional conditions and varied learning experiences support active student participation without reducing academic expectations.	Joyful learning creates an engaging environment that supports participation and complements mindful and meaningful learning.
Integration of Mindful, Meaningful, and Joyful Learning	The three principles are implemented in an interconnected manner rather than as separate instructional techniques. Awareness and reflection are combined with contextual learning and engaging classroom activities.	Deep Learning emerges from the interaction between conscious engagement, contextual relevance, and positive learning experiences.	The depth of PAI learning depends on the coherence of the three principles rather than on the isolated use of a particular method.
Assessment and Curriculum Evaluation	Assessment uses questioning, observation, assignments, discussions, presentations, and written tests. Results are used to identify learning difficulties and to modify explanations, methods, and follow-up activities.	UbD: assessment is aligned with expected outcomes and learning activities. Ornstein & Hunkins: evaluation functions as feedback within a continuous curriculum development process.	Assessment supports Deep Learning when it is used not only to assign grades but also to diagnose understanding and improve subsequent learning.
Supporting Factors	Leadership support, teacher collaboration, teacher willingness to improve practice, student participation, and the availability of learning media and facilities support implementation.	Fullan: educational change depends on leadership, collaboration, teacher capacity, and institutional support rather than individual teacher practice alone.	Sustainable Deep Learning requires organizational support and professional collaboration in addition to classroom innovation.
Inhibiting Factors	Limited instructional time, differences in students' abilities, and varying levels of teacher readiness and	Fullan: curriculum innovation requires capacity building and supportive institutional	Deep Learning requires flexible instructional strategies, differentiated support, efficient time

	understanding implementation.	constrain	conditions for sustainable implementation.	management, continuous professional development.	and teacher
Overall Empirical Pattern	Planning, classroom implementation, assessment, and institutional support operate as interconnected elements. Evaluation results feed back into subsequent planning and instructional adjustment.		The findings collectively indicate a systemic and cyclical pattern of curriculum development and implementation.	Deep Learning-based PAI curriculum development can be understood as a continuous process connecting student needs → curriculum planning → mindful, meaningful, and joyful learning → assessment and evaluation → feedback and improvement , within enabling institutional conditions.	

As summarized in Table 2, the implementation of the Deep Learning-based PAI curriculum at MTs Ma'arif An-Naura can be understood as a systemic and cyclical process. The empirical findings show that its implementation begins with identifying students' needs and translating curriculum expectations into aligned learning objectives, activities, and assessment. These plans are enacted through learning experiences that integrate mindful, meaningful, and joyful principles, while assessment and evaluation provide feedback for subsequent instructional adjustment. At the same time, the effectiveness and continuity of this process are conditioned by leadership support, teacher collaboration and capacity, student participation, available resources, instructional time, and learner diversity. Therefore, the central pattern emerging from the findings is **curriculum coherence**, in which Deep Learning is strengthened when planning, classroom experience, assessment, and institutional support operate in an interconnected manner.

DISCUSSION

The findings from interviews, observations, and curriculum documentation were synthesized into a case derived provisional framework consisting of six interconnected stages: (1) student needs analysis, (2) curriculum planning, (3) integration of mindful, meaningful, and joyful learning, (4) learning implementation, (5) assessment, and (6) evaluation and continuous improvement. The framework emerged from the empirical findings at MTs Ma'arif An-Naura and illustrates how curriculum development provides the foundation for the implementation of Deep Learning in PAI.

The first stage involves identifying students' characteristics, abilities, interests, prior understanding, and learning difficulties. The findings show that the madrasah obtains information through classroom observation, initial assessment, learning outcomes, and teacher observations of students' characteristics. This stage provides the basis for designing learning experiences that are responsive to differences among students.

This stage is consistent with Taba's curriculum development theory, which emphasizes the importance of identifying learner needs as a basis for developing curriculum objectives and learning experiences. In the context of PAI, needs analysis enables teachers to determine how religious concepts can be presented according to students' levels of understanding and everyday experiences.

The second stage involves translating the identified needs into curriculum and learning plans. Teachers begin with the Capaian Pembelajaran (CP), formulate learning objectives, develop the Alur Tujuan Pembelajaran (ATP), and prepare teaching modules and assessment plans. The findings show that these components are adjusted to students' characteristics and the intended learning outcomes.

Curriculum planning therefore functions as the structural foundation for Deep Learning. The planning process determines not only what students are expected to learn but also how learning experiences and assessment will be organized to support deeper understanding.

The third stage involves integrating the three principles of Deep Learning into curriculum planning and learning activities. Mindful learning is reflected in learning objectives, attention to the learning process, questioning, active participation, and reflection. Meaningful learning is implemented by connecting PAI concepts with students' everyday experiences and real-life situations. Joyful learning is supported through varied methods, including discussion, group work, educational games, presentations, and digital media.

The three principles are interconnected rather than implemented as isolated components. Mindful learning supports students' awareness and focus, meaningful learning connects knowledge with experience, while joyful learning creates positive conditions that encourage participation.

The fourth stage is the translation of curriculum planning into classroom practice. The findings indicate that teachers implement learning through a combination of explanation, questioning, discussion, group work, case-based activities, presentations, and reflection. Learning activities are adjusted according to the material and students' conditions.

The implementation stage demonstrates that Deep Learning is not defined by a particular teaching method. Instead, its implementation depends on whether learning activities encourage students to understand concepts, connect them with meaningful contexts, participate actively, and reflect on their learning.

The fifth stage involves assessing students' achievement and learning processes. Teachers use multiple assessment techniques, including questioning, observation, assignments, discussions, presentations, and written tests. Assessment is adjusted to the learning objectives and provides information about students' knowledge, skills, and attitudes.

The findings indicate that assessment also functions as feedback for teachers. When students experience difficulties, teachers can provide additional explanations, modify learning strategies, or design follow-up activities. Assessment therefore becomes part of the learning process rather than simply a final measurement.

The final stage involves evaluating the implementation of the curriculum and using the findings to improve subsequent learning. The madrasah conducts evaluation by considering classroom implementation, student learning outcomes, teacher reflections, and monitoring of learning devices.

Evaluation is not understood as the endpoint of curriculum development. Instead, it produces feedback that can return to the needs-analysis and planning stages. If particular learning activities are ineffective or do not adequately address students' needs, teachers can modify the learning design, methods, media, or assessment in subsequent cycles.

The six stages therefore form a cyclical rather than strictly linear process. The results of assessment and evaluation can inform renewed analysis of student needs and subsequent curriculum planning. This cyclical characteristic strengthens the position of curriculum development as an ongoing process of adaptation and improvement.

The framework indicates that the implementation of Deep Learning in PAI is fundamentally dependent on curriculum development. The three principles of mindful, meaningful, and joyful learning are more likely to be implemented consistently when they are incorporated into curriculum planning rather than introduced only as classroom techniques.

The framework also demonstrates the relationship among curriculum development, pedagogy, assessment, and evaluation. Student needs provide the initial basis, curriculum planning translates those needs into learning objectives and activities, Deep Learning principles shape the

learning experience, assessment provides evidence of learning, and evaluation generates feedback for subsequent improvement.

From Taba's perspective, the framework emphasizes the centrality of learner needs. From Ornstein and Hunkins' perspective, it illustrates the interconnected nature of curriculum planning, implementation, and evaluation. Through Understanding by Design, the framework highlights alignment among learning objectives, learning activities, and assessment. Meanwhile, Fullan's perspective helps explain the importance of leadership support, teacher collaboration, professional development, and institutional conditions in sustaining implementation.

The resulting framework should be understood as a provisional framework derived from a single madrasah case. It does not constitute a universally validated curriculum-development model. Its primary contribution is to provide an empirically grounded representation of how curriculum development and Deep Learning can be connected in PAI within the specific context of a madrasah implementing the Merdeka Curriculum. Further research involving different madrasah settings is required to examine its transferability and validity.

CONCLUSION

This study concludes that the development and implementation of the Islamic Religious Education (PAI) curriculum based on the Deep Learning approach at MTs Ma'arif An-Naura is carried out through a process that connects student needs, curriculum planning, learning implementation, assessment, and evaluation within the framework of the Merdeka Curriculum. The curriculum development process begins with identifying students' characteristics, abilities, interests, and learning difficulties, followed by the development of learning objectives, ATP, teaching modules, learning activities, and assessment instruments. The implementation of Deep Learning is reflected in the integration of mindful, meaningful, and joyful learning through focused learning, reflection, contextualization of PAI values, discussion, group activities, case-based learning, and varied learning media.

The study also identifies several supporting and inhibiting factors. Leadership support, teacher collaboration, teacher commitment, student participation, and learning resources support implementation, while limited instructional time, differences in student abilities, and differences in teachers' understanding and readiness present challenges. These findings indicate that the implementation of Deep Learning requires not only appropriate classroom strategies but also institutional support and continuous teacher development.

Based on the empirical findings, the study proposes a case-derived provisional framework consisting of six interconnected stages: student needs analysis, curriculum planning, integration of mindful-meaningful-joyful learning, learning implementation, assessment, and evaluation and continuous improvement. The framework positions curriculum development as the foundation of Deep Learning implementation in PAI and emphasizes a cyclical process in which assessment and evaluation provide feedback for subsequent curriculum planning. Because the framework is derived from a single madrasah case, further research involving different madrasah contexts is required to examine its transferability and validity.

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