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EPISTEMIC INTEGRATION AND INSTITUTIONAL QUALITY IN ISLAMIC MONTESSORI PEDAGOGY: A CASE STUDY OF ALIF MONTESSORI SCHOOL PEKANBARU

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ABSTRACT

The integration of Islamic education and the Montessori method is increasingly relevant in early childhood education because both traditions emphasize holistic child development, although they originate from different epistemic and pedagogical foundations. However, existing discussions often treat Islamic Montessori as a combination of religious content and Montessori techniques, leaving underexplored how values, knowledge construction, classroom practice, and institutional quality are coherently integrated. This study analyzes the forms of epistemic and institutional integration, implementation challenges, and quality implications of Islamic Learning with Montessori Method at Alif Montessori School Pekanbaru. A qualitative case-study design was employed. The informants consisted of the principal, teachers, and parents selected purposively because of their involvement in planning, implementing, and supporting children's education. Data were collected through observation, in-depth interviews, and documentation, and were analyzed thematically through data reduction, data display, thematic coding, triangulation, and conclusion drawing. The findings show that integration is enacted through the alignment of Montessori areas with Islamic Class, Hijaiyah Montessori and Alifun learning innovations, worship habituation, an Islamic prepared environment, and family involvement. These practices indicate that Islamic values operate not only as instructional content but also as an epistemic orientation that shapes children's habits of knowing, acting, and relating. The main challenges concern teacher competence, curriculum consistency, learning-material availability, and the continuity of habituation at home. The study concludes that integration quality is determined not merely by adopting the Montessori label or adding Islamic content, but by the institution's capacity to sustain coherence among curriculum, teacher practice, learning environment, materials, and parent partnership. The originality of this study lies in conceptualizing Islamic Montessori as an institutional quality integration framework, in which pedagogical practice, moral-spiritual formation, and organizational coherence jointly determine integration quality. Theoretically, the study extends Islamic Montessori scholarship by shifting the analysis from method adoption to epistemic-pedagogical coherence.

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1. INTRODUCTION

The quality of early childhood education can no longer be understood only as early academic achievement. At this level, educational quality is related to an institution's ability to foster children's spiritual, moral, cognitive, socio-emotional, physical-motor, and independence development in a balanced way. It is also related to how children gradually construct meaning, develop moral awareness, and learn to relate knowledge to daily conduct. In Islamic education, educational quality is related to the formation of faith, adab, akhlak, good habits, and the awareness that learning is part of the process of worship and human dignity (Halstead, 2004; Niyozov & Memon, 2011; Sahin, 2018). Therefore, Islamic education for early childhood should be present as a living experience in routines, social relationships, and the learning environment, not merely as the delivery of religious content. This means that Islamic early childhood education has an epistemic dimension: it shapes not only what children know, but also how they come to know, value, practice, and embody knowledge in everyday life.

The Montessori method provides a pedagogical framework that is relevant to this holistic orientation. Montessori emphasizes guided freedom, the use of concrete materials, learning through activity, an orderly environment, and respect for children's developmental rhythms. These principles position children as active constructors of knowledge who learn through sensory

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

experience, movement, repetition, concentration, and purposeful interaction with the environment. Empirical studies show that Montessori education has the potential to support children's academic, social, cognitive, and independence development when its core principles are applied consistently (Lillard & Else-Quest, 2006; Marshall, 2017; Randolph et al., 2023). In the context of Islamic education, these principles can be connected with the habituation of adab, responsibility, cleanliness, compassion, and worship awareness. Thus, Montessori pedagogy can provide an experiential mechanism through which Islamic values are not only taught verbally but also practiced, repeated, and internalized through concrete activity.

The integration of Islamic education and Montessori offers an opportunity to build an early childhood learning model that does not separate religious development from learning experiences. Values such as honesty, responsibility, gratitude, discipline, and care can be introduced through concrete activities, role modeling, work choices, and meaningful repetition. In this framework, Islamic education provides value orientation, while Montessori provides pedagogical strategies that allow children to learn through direct experience. The central issue, however, is not simply whether Islamic content can be placed within Montessori activities, but how Islamic moral-spiritual knowledge and Montessori experiential learning can form a coherent epistemic-pedagogical system.

However, this integration cannot be understood as merely adding symbols, prayers, or religious content to a Montessori classroom. Quality integration requires coherence among the goals of Islamic education, Montessori principles, teacher competence, curriculum design, learning materials, environmental arrangement, communication with parents, and assessment of children's development. Such coherence is epistemic as well as organizational, because it concerns the relationship between the aims of knowing, the methods of learning, the values embodied in practice, and the institutional routines that sustain them. Without such coherence, integration risks becoming an institutional formality rather than a consistent pedagogical practice. The quality of teacher interaction and the structure of the learning environment have also been shown to be important factors in early childhood education (Mashburn et al., 2008; Hamre et al., 2014). Therefore, the quality of Islamic Montessori integration needs to be examined through the interaction between pedagogy, value formation, knowledge construction, and institutional management.

1.1 Conceptual Framework: Epistemic Integration in Islamic Montessori Pedagogy

In this study, epistemic integration refers to the process through which Islamic values, Montessori principles, teacher mediation, learning materials, prepared environments, and family routines jointly shape children's ways of knowing, acting, and forming moral-spiritual awareness. This concept differs from symbolic integration, which only combines religious labels with Montessori terminology. Epistemic integration requires that Islamic values function as an orientation for meaning, purpose, and conduct, while Montessori principles function as pedagogical mechanisms that enable children to experience, repeat, and internalize those values through concrete learning.

From this perspective, Islamic Montessori pedagogy can be understood as an institutional quality system. Curriculum, materials, teacher interaction, worship habituation, environmental arrangement, assessment, and parent partnership must support one another so that children encounter consistent messages across learning spaces. The prepared environment is not merely a physical classroom, but an epistemic space where children learn order, independence, responsibility, cleanliness, concentration, respect, and worship awareness. Teachers also become central mediators because they translate Islamic educational aims and Montessori principles into daily decisions, language, modeling, and interaction.

A number of studies in Indonesia have discussed the concept and implementation of Islamic Montessori, including issues related to curriculum, independence, religious learning, and character education (Fajarwati, 2014; Indyati et al., 2020; Susanto, 2021). Other studies have highlighted children's independence, Islamic Montessori curriculum management, and character education in specific institutional contexts (Adilah et al., 2022; Damayanti et al., 2022; Indasah et al., 2023). Additional research has examined the relationship between the Montessori curriculum and Islamic concepts (Wahyuningsih et al., 2022). These studies are valuable because they show the practical relevance of Islamic Montessori in early childhood education. However, much of the existing literature still treats integration as curriculum adaptation, method implementation, or character-building practice. It has not sufficiently explained how Islamic educational values and Montessori principles are epistemically connected through institutional routines, teacher practice, materials, environment, and family partnership. Nevertheless, empirical studies that map the challenges of quality integration in institutional practice remain limited. This leaves an unresolved conceptual issue: how can Islamic Montessori move from a combination of methods and religious content toward a coherent framework of knowledge construction, value internalization, and institutional quality?

Based on this gap, this study focuses on Alif Montessori School Pekanbaru, an early childhood education institution that develops the Islamic Learning with Montessori Method approach. This study aims to analyze how the quality integration of Islamic education and Montessori is implemented, what challenges emerge in implementation, and how these challenges affect integration quality. More specifically, the study examines how Islamic Montessori is constructed as an epistemic-pedagogical practice through curriculum alignment, teacher mediation, concrete materials, worship and akhlak habituation, prepared environment, and parent partnership. The contribution of this study lies in mapping integration as an issue of institutional quality, rather than merely as an issue of learning methods. Conceptually, the study proposes that Islamic Montessori integration should be understood as an institutional quality integration framework in which pedagogical coherence, moral-spiritual formation, and knowledge construction are mutually connected.

2. METHODS

This study used a qualitative approach with a case-study design. A qualitative approach was chosen because the study seeks to understand the processes, meanings, experiences, and implementation challenges involved in integrating Islamic education and Montessori within the natural context of an early childhood education institution. This approach was also considered suitable for examining how epistemic orientation, value formation, pedagogical practice, and institutional routines interact in daily school life.

Journal Epistemic Epistemic Pedagogy
Online : https://sejatipublishingindonesia.com/ep/index

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

The case-study design is appropriate because Alif Montessori School Pekanbaru is positioned as a bounded case with distinctive characteristics, namely the implementation of Islamic Learning with Montessori Method (Kusumastuti & Khoiron, 2019; Creswell & Poth, 2024; Yin, 2018). Thus, the case was not treated merely as a school profile, but as an empirical setting for analyzing Islamic Montessori as an institutional quality integration system.

The research location was Alif Montessori School Pekanbaru. This institution was selected because it integrates Islamic values and Montessori principles into the curriculum, learning practices, learning environment, and children's daily habituation. The research focused on four main domains: curriculum structure, learning practice, prepared environment, and parental involvement. These domains were examined as interconnected components of institutional coherence, rather than as separate administrative categories.

Informants were selected purposively and included the principal, teachers, and parents. The principal was selected because of their role in formulating policy and directing the development of integration. Teachers were selected because they translate Montessori principles and Islamic values into daily learning activities. Parents were selected because they play a role in maintaining the continuity of value habituation at home. The selection criteria emphasized direct involvement in planning, implementing, observing, or reinforcing Islamic Montessori practices. The participant profile was documented according to role, institutional involvement, and relevance to the research focus to clarify the basis of data adequacy. Data collection continued until the main themes showed recurrence across observation, interview, and documentation sources. The composition of data sources and their analytical functions is presented in Table 1.

Table 1. Data sources and analytical functions

Data source	Scope	Analytical function
Observation	Learning activities, teacher–child interactions, material use, worship routines, environmental arrangement, and children's responses to Islamic Montessori activities	To examine how integration occurs in daily practice, not only in documents, and to identify how values, materials, and routines shape children's learning experiences.
In-depth interviews	Principal, teachers, and parents, with attention to each informant's role in policy, classroom practice, or home habituation.	To explore the experiences, perceptions, obstacles, and strategies of actors in maintaining integration quality, including their understanding of Islamic values, Montessori principles, and institutional coherence.
Documentation	School profile, curriculum documents, learning tools, activity photos, supporting documents, and available records related to learning planning and habituation activities	To examine institutional traces, consistency of lesson planning, and evidence of activities, as well as the alignment between written plans and observed practices.
Triangulation	Comparison across sources and techniques	To assess the consistency of findings and strengthen the validity of interpretation, especially when comparing institutional narratives, classroom evidence, and parent perspectives.

Source: Research data, processed by the author.

As shown in Table 1, this study did not rely on a single data source. The complementarity of observation, interviews, documentation, and triangulation in Table 1 enabled the researcher to compare informants' statements with institutional practices and documents. This comparison was important for avoiding reliance on formal claims about integration and for examining whether Islamic Montessori principles were consistently reflected in classroom interaction, learning materials, routines, and parent-school communication.

The main research instrument was the researcher, supported by observation guidelines, interview guidelines, and document-review formats. These supporting instruments covered aspects such as forms of curriculum integration, Montessori practice, Islamic habituation, teacher readiness, learning materials, learning environment, and parental involvement. They also included prompts related to epistemic orientation, such as how children learn Islamic values through concrete activities, how teachers mediate meaning, and how institutional routines support knowledge and value formation. The supporting instruments were used to maintain the direction of data collection while still allowing emerging themes from the field to develop.

Data were analyzed thematically. The first stage was data reduction by selecting information relevant to the research focus. The second stage was data display in the categories of curriculum integration, learning innovation, worship habituation, prepared environment, teacher competence, learning materials, and parental involvement. These categories were then interpreted through higher-order analytical themes, including epistemic integration, institutional coherence, teacher mediation, embodied value learning, and continuity between school and home. The third stage was thematic coding and conclusion drawing by comparing patterns across sources. Coding was conducted iteratively by moving from descriptive codes to interpretive themes, so that the analysis did not stop at mapping activities but also examined their meaning for Islamic Montessori quality. This procedure follows qualitative analysis principles that emphasize data condensation, data display, and verification of findings (Miles et al., 2019; Braun & Clarke, 2006).

Data trustworthiness was maintained through source and technique triangulation. Information from the principal, teachers, and parents was compared to assess the consistency of perspectives. Observation, interview, and documentation results were also compared to determine whether institutional narratives corresponded with practice. Credibility was strengthened by repeated reading of the data, comparison of emerging themes across sources, clarification of ambiguous information with relevant participants when needed, and checking whether interpretations were supported by observation and documentation evidence. An

Journal Epistemic Epistemic Pedagogy
Online : https://sejatipublishingindonesia.com/ep/index

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

audit trail was maintained through field notes, interview summaries, document-review notes, coding categories, and records of theme development. This strategy is consistent with the view that the trustworthiness of qualitative research should be built through a clear analytical trail, repeated reading, and examination of coherence across data (Flick, 2018; Nowell et al., 2017).

Because the author has an institutional relationship with Alif Montessori School Pekanbaru, reflexivity was treated as part of the methodological process. The researcher reflected on potential bias by comparing personal interpretations with interview data, observation records, and documentation. This reflexive procedure was used to ensure that the analysis did not merely affirm institutional expectations, but critically examined the coherence and challenges of Islamic Montessori integration.

3. FINDINGS AND DISCUSSION

3.1 General overview of Alif Montessori School Pekanbaru



Figure 1. Overview of Alif Montessori School Pekanbaru

Source: School documentation in the research manuscript.

Alif Montessori School Pekanbaru is an early childhood education institution established in 2025 with the vision of integrating Islamic educational values and the Montessori method. Figure 1 illustrates the institutional context that serves as the research site. The school develops the concept of Islamic Learning with Montessori Method as an effort to provide education that stimulates cognitive and motor development while also fostering children's faith, adab, akhlak, and independence. This institutional context is important because the integration examined in this study is not limited to classroom techniques, but also involves the school's attempt to construct a coherent epistemic-pedagogical environment for early childhood Islamic education.

Field findings show that the school's identity is built through a combination of child-centered learning and an Islamic educational orientation. Children are given space to explore through materials, independent activities, work choices, and interaction with the environment. At the same time, these activities are directed toward fostering gratitude, responsibility, care, and religious awareness. This pattern indicates that the school's pedagogical identity is formed through the interaction between Montessori's experiential learning logic and Islamic education's moral-spiritual orientation. The school context shown in Figure 1 confirms that integration takes place within a real institutional environment, so the quality of integration needs to be viewed from daily practice, not only from the narrative of the school's vision. Therefore, the case provides an empirical basis for examining whether institutional identity is translated into consistent routines, learning materials, teacher mediation, and children's habituated practices.

By 2026, the school had served more than 33 families. This figure indicates community acceptance of an approach that combines Islamic values and Montessori. However, this acceptance should not be interpreted as evidence of integration quality by itself. It functions more appropriately as an indicator of social trust that needs to be supported by pedagogical consistency, methodological clarity, and institutional quality assurance. However, such acceptance also requires the school to maintain consistency in implementation so that integration does not stop at the appeal of identity, but becomes a sustainable learning system.

3.2 Forms of curriculum, learning, and environmental integration as epistemic practice

The integration of Islamic education and Montessori at Alif Montessori School is evident in the curriculum structure, learning practices, learning environment, daily habituation, and relationships with families. These domains do not operate as separate program components, but as connected sites where children encounter knowledge, values, order, responsibility, and worship awareness through repeated experience. The school implements Montessori areas such as sensory, Exercises of Practical Life, language, mathematics, and culture. At the same time, the school develops Islamic Class, which includes aqidah, akhlak, fiqh, and the Qur'an through the Loving Quran Curriculum. This arrangement shows an effort to connect Montessori's concrete and sequential learning structure with Islamic education's orientation toward faith, adab, akhlak, and spiritual consciousness.

This alignment shows that Islamic education is not positioned merely as additional content. Islamic values are connected to children's learning experiences. For example, practical life is directed not only toward the skills of tidying up tools and self-help, but also toward adab of cleanliness, responsibility, patience, and care. In this sense, practical life activities become epistemic practices because children learn values through action, bodily discipline, sensory engagement, and social interaction, not only through verbal explanation. Table 2 summarizes the domains of integration found in this study.

Journal Epistemic Epistemic Pedagogy
Online : https://sejatipublishingindonesia.com/ep/index

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

Table 2. Domains of Islamic Montessori integration at Alif Montessori School

Domain	Form of implementation	Meaning for quality
Curriculum	Montessori areas are aligned with Islamic Class and the Loving Quran Curriculum.	Islamic education becomes a value orientation in learning experiences, not merely an additional subject, and provides an epistemic frame for connecting knowledge, conduct, and worship awareness.
Arabic and Qur'anic learning	Hijaiyah Montessori and the Alifun Method are used through concrete, multisensory, and gradual activities.	Arabic letters and Qur'anic reading are learned through sensory coordination, movement, and concentration, so Qur'anic learning is introduced as embodied and developmental knowledge rather than memorization alone.
Worship and akhlak practice	Congregational prayer, supplication, sharing, cleanliness, and respect for teachers are habituated in daily routines.	Islamic values are experienced through repeated actions and role modeling, turning adab into a daily practice of knowing, choosing, and behaving.
Prepared environment	The learning space is orderly, child-accessible, and equipped with Islamic elements such as a prayer corner and Islamic story materials.	The environment becomes a medium for value internalization and independence, as well as an epistemic space that organizes children's moral, sensory, and social experiences.
Parent partnership	Communication and reinforcement of habituation at home are needed so that school values continue in the family.	Integration quality depends on continuity between school and home, because children's moral-spiritual learning requires consistency across institutional and family settings.

Source: Research data, processed by the author.

Table 2 shows that integration is not located at a single point in the curriculum, but extends across learning practices, the environment, routines, and family partnerships. The table also clarifies that integration has both pedagogical and epistemic dimensions. Pedagogically, integration appears in activities, materials, routines, and interactions. Epistemically, integration appears in the way Islamic values shape children's understanding of order, responsibility, worship, care, and independence. The pattern in Table 2 also shows that the quality of integration depends greatly on consistency across domains.

One important finding is the innovation of Arabic and Qur'anic learning through Hijaiyah Montessori and the Alifun Method. This approach avoids the dominance of verbal memorization by introducing letters and reading through cards, concrete materials, movement activities, and sensory experience. From a Montessori perspective, the use of concrete materials supports concentration and coordination. From an Islamic education perspective, these activities become a bridge that brings children closer to the Qur'an from an early age. Analytically, this finding shows that Qur'anic literacy is constructed through embodied learning: children see, touch, move, repeat, pronounce, and gradually attach religious meaning to symbols. This strengthens the epistemic relevance of Islamic Montessori because religious knowledge is introduced through developmental experience rather than abstract instruction alone.

The dimension of worship and akhlak habituation shows that Islamic education is presented as a routine experienced by children. Children are habituated to praying, performing congregational prayer, maintaining cleanliness, waiting for their turn, tidying up tools, and sharing with friends. This practice is important because value education in early childhood cannot be adequately delivered only verbally. Children learn through repetition, role modeling, and concrete situations. The analytical significance of this finding is that habituation functions as a mechanism of epistemic formation. Through repeated routines, children do not only know that cleanliness, patience, and respect are Islamic values; they learn how these values are enacted in daily conduct.

The prepared environment also supports integration. A learning space that is orderly, clean, and accessible to children supports independence and orderliness. When the environment is enriched with Islamic symbols, stories, and routines, the learning environment becomes a space for value internalization. In this case, the prepared environment is not value-neutral. It structures what children notice, how they move, how they use materials, how they care for shared space, and how they encounter Islamic meanings in everyday activity. This finding is consistent with Montessori literature, which emphasizes the function of the environment as a second teacher, and Islamic education literature, which positions habituation as a path toward the formation of adab (Julita, 2021; Marshall, 2017). The finding extends this literature by showing that, in Islamic Montessori practice, the environment can operate simultaneously as a pedagogical setting, a moral-spiritual space, and an institutional mechanism for sustaining coherence between values and practice.

Journal Epistemic Epistemic Pedagogy
Online : https://sejatipublishingindonesia.com/ep/index

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

3.3 Conceptual model of integrative quality as epistemic and institutional coherence



Figure 2. Conceptual model of quality integration in Islamic education and Montessori as an epistemic-institutional framework

Source: Developed from the research findings.

Based on the findings, quality integration can be understood as the relationship among the goals of Islamic education, Montessori principles, teacher competence, a prepared environment, family partnership, and the cycle of quality improvement. Figure 2 illustrates this relationship. This model positions integrative quality as the result of coherence among components, not as the result of a single method. The model also shows that Islamic Montessori integration has an epistemic dimension because it concerns how children learn to connect knowledge, values, worship awareness, responsibility, and daily conduct through repeated experience.

Figure 2 also shows that teachers are an important node of integration. Teachers do not only act as Montessori facilitators who prepare the environment and observe children, but also as role models of Islamic values. They mediate the relationship between Montessori materials, Islamic meanings, children's choices, classroom order, and habituated conduct. Therefore, teacher competence must include pedagogical understanding, sensitivity to children's development, and spiritual-reflective capacity. In this sense, teacher competence is not only technical but also epistemic, because teachers guide how children interpret activities as meaningful moral-spiritual learning experiences. This framework supports the view that the quality of teacher interaction is an important element in the quality of early childhood education (Hamre et al., 2014; Mashburn et al., 2008). The model in Figure 2 clarifies the difference between symbolic integration and substantive integration. Symbolic integration occurs when schools merely add religious attributes or Montessori terminology. Substantive integration occurs when goals, methods, environment, interactions, materials, and assessment mutually support the holistic formation of children. Substantive integration therefore requires epistemic coherence: Islamic values must shape the meaning and purpose of learning, while Montessori principles must provide concrete pedagogical pathways through which children experience and internalize those values.

The conceptual contribution of this model lies in positioning Islamic Montessori as an institutional quality integration framework. The framework suggests that integration quality is produced when six components operate coherently: Islamic educational aims, Montessori pedagogical principles, teacher mediation, prepared environment, family partnership, and continuous quality improvement. If one component is weak, integration may remain symbolic, fragmented, or dependent on individual teacher interpretation. Three conceptual propositions can be drawn from this model. First, Islamic Montessori integration becomes substantive when Islamic values shape the process of knowledge construction, not only the content of instruction. Second, the prepared environment functions as an epistemic space when it organizes children's sensory, moral, spiritual, and social experiences into coherent routines. Third, institutional quality depends on sustained coherence among curriculum, teacher practice, materials, environment, assessment, and parent partnership.

3.4 Implementation challenges

Although integration has been implemented, this study found several challenges that affect implementation quality. These challenges are not only operational but also epistemic, because they determine whether Islamic values and Montessori principles can be translated into coherent learning experiences. The first challenge is teacher competence. Teachers are required to understand both Montessori principles and Islamic education. This dual role is not simple because teachers must maintain a balance among children's freedom, classroom order, habituation of adab, and spiritual orientation. If teachers understand only the procedural side of Montessori or only the normative side of Islamic education, classroom practice may become fragmented and fail to support integrated knowledge and value formation.

Journal Epistemic Epistemic Pedagogy
Online : https://sejatipublishingindonesia.com/ep/index

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

The second challenge is curriculum consistency. An integrative curriculum requires interconnected planning, implementation, documentation, and assessment. If the Montessori curriculum and Islamic education run as two separate tracks, integration will weaken. This fragmentation may cause Islamic learning to appear as a separate religious session rather than as a value orientation embedded across learning activities. The third challenge is the availability of learning materials. Concrete and sequential Montessori materials need to be adapted to Islamic values without losing their manipulative and structured principles. Material adaptation is therefore not merely a matter of producing Islamic-themed tools, but of ensuring that materials still support concentration, sensory exploration, gradual abstraction, and meaningful value internalization.

The fourth challenge is parental involvement. Habituation developed at school becomes stronger when continued at home. Conversely, parents' limited understanding of Montessori or the goals of Islamic habituation can reduce value continuity. This shows that Islamic Montessori integration depends on continuity between school epistemic culture and family routines. When home practices contradict or do not reinforce school habituation, children may receive inconsistent messages about independence, adab, worship, and responsibility. These challenges are visualized in Figure 3 and further detailed in Table 3.

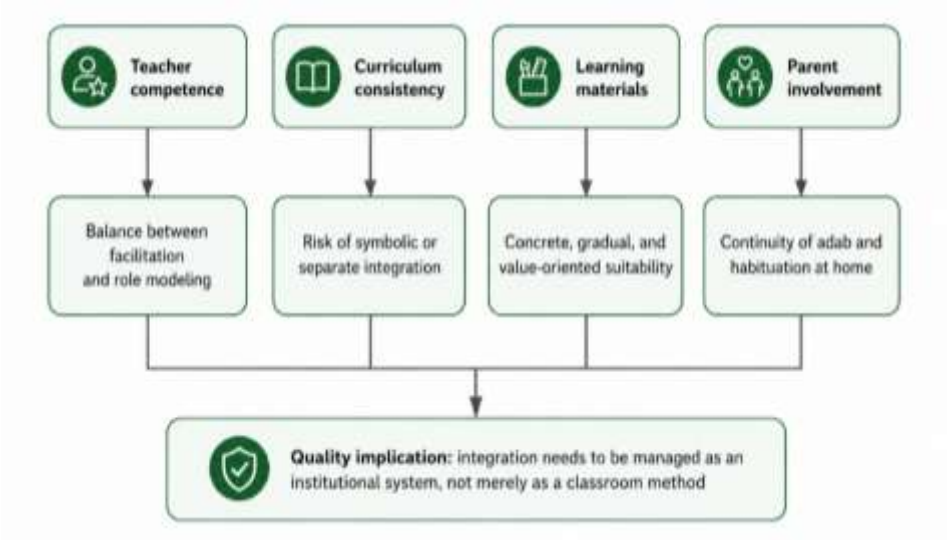

Figure 3. Map of Islamic Montessori implementation challenges affecting epistemic and institutional coherence

Source: Developed from the research findings.

Table 3. Implementation challenges and quality implications

Challenge	Problem form	Quality implication	Strengthening needed
Teacher competence	Teachers need to master Montessori, early childhood education, and Islamic values in a balanced way.	Integration risks becoming inconsistent if teachers are strong in only one approach and cannot connect Islamic meanings with Montessori learning processes.	Continuous training, classroom observation, mentoring, and practice reflection focused on both pedagogical skill and epistemic mediation.
Curriculum consistency	Montessori areas and Islamic Class need to be planned as one learning experience.	Learning may become fragmented between Montessori activities and Islamic content, causing children to experience religious values as separate lessons rather than integrated ways of knowing and acting.	Thematic curriculum mapping, integration rubrics, and periodic evaluation that link learning objectives, Islamic values, Montessori materials, and developmental indicators.
Learning materials	Materials need to be concrete, safe, gradual, and Islamic in nuance without reducing Montessori principles.	Limited materials can reduce the quality of hands-on experience and weaken embodied value learning.	Development of local materials, material audits, and documentation of use to ensure that materials remain concrete, sequential, manipulative, and meaningful for Islamic learning.
Parent involvement	Habituation of adab and worship requires continuity at home.	Values built at school may not receive reinforcement in family life, creating discontinuity between classroom routines and home practices.	Routine communication, home-habituation guidelines, and parent meetings to build shared understanding of independence, worship routines, adab, and Montessori-based parenting.

Journal Epistemic Epistemic Pedagogy
Online : https://sejatipublishingindonesia.com/ep/index

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

Challenge	Problem form	Quality implication	Strengthening needed
Quality management	Integration requires monitoring, developmental records, and follow-up.	Integration may become a promotional identity rather than a quality system, especially when planning, implementation, assessment, and reflection are not connected.	A cycle of planning, implementation, evaluation, and improvement supported by documentation, teacher reflection, parent feedback, and periodic review of integration coherence.

Source: Research data, processed by the author.

Figure 3 shows that implementation challenges are interconnected and lead to the issue of quality coherence. Table 3 emphasizes that each challenge has direct consequences for the consistency of children's learning experiences. The challenges also show that Islamic Montessori quality cannot be secured through curriculum labels alone; it requires continuous alignment among teacher interpretation, material use, classroom routines, home reinforcement, and institutional evaluation. Therefore, Table 3 not only maps the problems but also offers strengthening needs that schools can use as an improvement agenda. This interpretation strengthens the argument that implementation challenges are part of the theoretical contribution of the study, because they reveal the conditions under which epistemic integration becomes either substantive or merely symbolic.

3.5 Discussion: integration as an epistemic and institutional quality system

The findings of this study confirm that the integration of Islamic education and Montessori at Alif Montessori School Pekanbaru takes place as both a pedagogical, epistemic, and institutional process. Integration is seen not only in the combination of curricula, but also in how the school builds a learning ecosystem that connects spiritual goals, akhlak formation, independence, and concrete experience. This means that Islamic Montessori integration concerns not only what children are taught, but also how children construct meaning, internalize values, and translate knowledge into daily conduct. This expands previous studies that tended to emphasize the benefits or concepts of Islamic Montessori (Fajarwati, 2014; Indyati et al., 2020). While earlier studies have shown the relevance of Islamic Montessori for religious learning and child development, this study extends the discussion by explaining integration as a problem of epistemic coherence and institutional quality.

In the curriculum aspect, the alignment of Montessori areas with Islamic Class shows that Islamic values can be internalized in learning activities. However, this finding also shows that such alignment requires operational tools so that teachers have a shared reference. Curriculum integration should therefore move beyond thematic matching between Montessori areas and Islamic content toward a clearer framework that connects learning objectives, Islamic values, materials, routines, and developmental indicators. Without these tools, the curriculum risks being understood differently by each teacher. In the context of early childhood education, consistency in daily practice is very important because children learn through meaningful repetition. Theoretically, this finding suggests that curriculum coherence is a condition for epistemic integration because children need repeated and consistent experiences to connect knowledge, value, and action.

In the teacher aspect, this study shows that integration requires competence beyond ordinary teaching skills. Teachers need to understand child development, the principles of Montessori materials, classroom management that provides guided freedom, and Islamic values that should be modeled. They also need the ability to mediate meaning, namely to connect children's concrete activities with Islamic moral-spiritual understanding without turning the learning process into rigid instruction. The teacher's role as both facilitator and role model strengthens the argument that the quality of early childhood classrooms depends on sensitive and intentional interactions (Hamre et al., 2014). This finding extends that argument by showing that, in Islamic Montessori classrooms, interaction quality also includes the teacher's capacity to guide children's epistemic and moral formation through language, modeling, observation, and reflective habituation.

In the environmental aspect, the prepared environment at Alif Montessori School functions not only as a physical space. The environment becomes a medium for forming adab, worship habits, responsibility, and independence. This shows that the learning environment is not value-neutral. Rather, it operates as an epistemic space that organizes what children see, touch, repeat, choose, and practice. When space, materials, routines, and social relationships are intentionally arranged, the environment can support children's character formation and spirituality. This interpretation strengthens the conceptual link between Montessori's prepared environment and Islamic education's emphasis on habituation, because both depend on structured experience as a path toward formation.

In the family aspect, the findings show that parental involvement is a prerequisite for value continuity. Early childhood education does not take place only in the classroom. Values developed through supplication, adab, cleanliness, independence, and responsibility require reinforcement in family routines. Therefore, Islamic Montessori integration needs to be viewed as a school-home partnership, not merely as an internal school innovation. From an epistemic perspective, family involvement is important because children's understanding of values is strengthened when school routines and home practices communicate consistent meanings. Without this continuity, Islamic Montessori may remain effective as a classroom experience but weak as a sustained process of moral-spiritual formation.

The main contribution of this study is that it places implementation challenges as part of quality analysis. Unlike approaches that only highlight the conceptual compatibility between Islam and Montessori, this study shows that successful integration is determined by the management of teacher capacity, curriculum consistency, materials, environment, and relationships with parents. This shifts the discussion from compatibility to coherence. Compatibility explains why Islamic education and Montessori can be brought together, whereas coherence explains how the two traditions can operate as a sustainable pedagogical and epistemic system. From the perspective of educational resource management, quality strengthening also requires human resources, facilities, and continuous management support (Salsabila & Bahrani, 2025). In other words, integration quality must be managed as an

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ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

institutional system. Thus, quality integration depends not only on pedagogical ideals, but also on institutional mechanisms that sustain planning, implementation, monitoring, reflection, and improvement.

This study also contributes to scholarly dialogue by offering a more critical reading of Islamic Montessori practice. Previous studies have tended to emphasize implementation, independence, religious learning, or character education. These themes remain important, but they do not fully explain how Islamic values become part of children's knowledge construction through materials, routines, teacher mediation, and institutional culture. The present study therefore positions Islamic Montessori as an epistemic-pedagogical framework rather than merely a hybrid curriculum model.

Based on the findings, three conceptual implications can be proposed. First, Islamic Montessori integration becomes substantive when Islamic values guide the process of knowing, acting, and reflecting, not only the content of instruction. Second, the prepared environment functions as a moral-spiritual learning space when it connects sensory experience, order, independence, and worship awareness. Third, institutional quality is achieved when curriculum, teacher competence, materials, family partnership, and quality management operate coherently. These propositions clarify the theoretical contribution of the study and provide a basis for future comparative or multi-case research on Islamic Montessori pedagogy.

3.6 Quality strengthening cycle for epistemic and institutional coherence

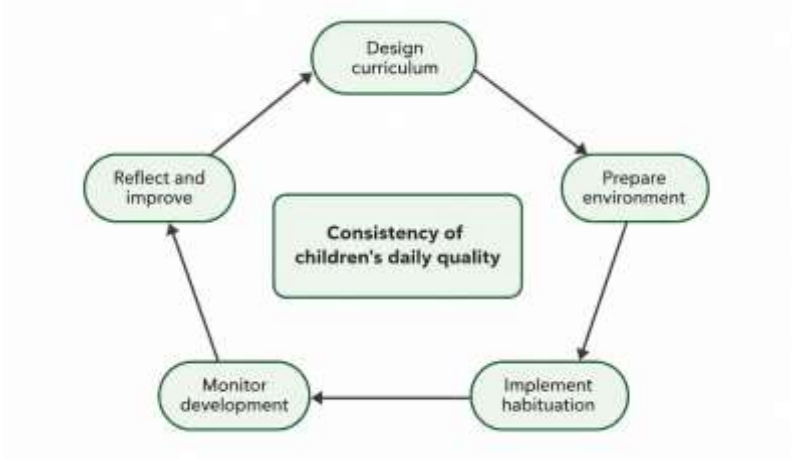

Figure 4. Quality strengthening cycle for Islamic Montessori integration as an epistemic and institutional quality system

Source: Developed from the research findings.

The research findings can be translated into a quality strengthening cycle, as shown in Figure 4. The cycle begins with curriculum design, environmental preparation, habituation implementation, monitoring of children's development, and improvement reflection. These stages represent more than a managerial sequence; they form a mechanism for sustaining epistemic coherence between Islamic educational aims, Montessori learning principles, teacher practice, children's habituation, and institutional evaluation. Figure 4 emphasizes that integration is not a one-time process, but needs to be maintained through repeated managerial and pedagogical processes. In this sense, Islamic Montessori quality depends on continuous alignment between what the school intends children to know, how children experience learning, and how teachers and parents reinforce values in daily routines.

In practice, the cycle in Figure 4 can be used by the school to develop an improvement agenda. Curriculum design needs to be supported by an integration map between Montessori areas and Islamic values. This map should clarify the relationship among learning objectives, Islamic values, Montessori materials, classroom routines, and developmental indicators. Environmental preparation needs to consider material availability, safety, accessibility, and Islamic nuance. It should also ensure that the prepared environment functions as a moral-spiritual and sensory learning space, not merely as a visually Islamic classroom. Habituation implementation needs to be recorded through developmental notes. These notes should capture not only children's task completion, but also emerging patterns of independence, responsibility, adab, concentration, worship participation, and social care. Monitoring results need to be discussed with teachers and parents so that improvement can continue sustainably. Such discussion is important because integration quality depends on shared interpretation between school and home.

This cycle also helps prevent integration from becoming merely an institutional slogan. When the school has mechanisms for planning, implementation, monitoring, and reflection, integration quality can be evaluated more concretely. The cycle therefore functions as a quality assurance framework that distinguishes substantive integration from symbolic integration. Substantive integration occurs when Islamic values, Montessori principles, teacher mediation, materials, environment, and family routines are reviewed continuously and improved based on evidence. This is consistent with the principles of institutional qualitative research, which emphasize the importance of evidence, organizational routines, and contextual interpretation in explaining educational practice (Miles et al., 2019; Yin, 2018).

Theoretically, the quality strengthening cycle extends the conceptual model in Figure 2 by showing how epistemic integration can be maintained over time. The cycle suggests that Islamic Montessori pedagogy requires recursive reflection: curriculum design shapes practice, practice generates evidence, evidence informs evaluation, and evaluation guides improvement. This proposition strengthens the article's contribution by positioning Islamic Montessori not only as an applied learning model, but also as a dynamic institutional framework for knowledge construction, value internalization, and continuous quality improvement.

ISSN XX-XX-XXXX
ISSUE VOLUME 1 NO 1 (MEI, 2026)
PAGE : 66- 76

4. CONCLUSION

This study shows that the quality integration of Islamic education and the Montessori method at Alif Montessori School Pekanbaru is implemented through curriculum alignment, concrete learning practices, worship and akhlak habituation, an Islamic prepared environment, and family support. This integration builds a learning experience that positions children as active subjects while also guiding them toward faith, adab, responsibility, and independence. The findings further indicate that Islamic Montessori integration is not only a pedagogical arrangement, but also an epistemic process through which children learn to connect knowledge, values, worship awareness, and daily conduct. The main challenges of integration lie in teacher competence, consistency of curriculum implementation, availability of learning materials, parental involvement, and the need for more systematic quality management. As summarized in Table 3 and visualized in Figure 3, these challenges are interconnected and affect the coherence of children's learning experiences. These challenges show that integration quality depends on the institution's capacity to maintain coherence among Islamic educational aims, Montessori principles, teacher mediation, materials, classroom routines, family reinforcement, and continuous evaluation.

Theoretically, this study strengthens the understanding that Islamic Montessori should be understood as a system of value and practice integration, not merely as a combination of methods and religious content. More specifically, the study contributes an institutional quality integration framework that explains how epistemic coherence is formed through curriculum, teacher practice, prepared environment, habituation, materials, family partnership, and quality improvement. Practically, schools can use the model in Figure 2 and the cycle in Figure 4 to strengthen the curriculum, teacher training, material development, communication with parents, and assessment of children's development. Thus, the quality integration of Islamic education and Montessori has the potential to become an alternative model for developing holistic, reflective, and sustainable Islamic early childhood education. The main proposition generated from this study is that Islamic Montessori becomes substantive when Islamic values guide children's ways of knowing and acting, while Montessori principles provide concrete pedagogical pathways for internalizing those values.

4.1 Implications, limitations, and recommendations

The implication of this study is that Islamic Montessori institutions need to develop operational guidelines that bridge the goals of Islamic education and Montessori principles. These guidelines may include curriculum maps, examples of integrative activities, standards for material use, child development records, and communication strategies with parents. At the theoretical level, the findings imply that Islamic Montessori should be analyzed through the lens of epistemic integration, because the central issue is how children construct moral-spiritual understanding through concrete experience, teacher mediation, habituation, and institutional routines. At the practical level, schools need clear tools for linking Islamic values, Montessori areas, learning materials, observation records, and home-based reinforcement.

The limitation of this study lies in its single-case scope, so the findings are not intended for statistical generalization. This study also has not tested the effectiveness of the quality strengthening model longitudinally. Another limitation is that the study focuses on institutional practice and actors' perspectives, so it has not yet measured children's developmental outcomes through standardized or longitudinal instruments. Future studies may use school action research, multi-case studies, or mixed-methods approaches to assess changes in teacher competence, curriculum consistency, parental involvement, and children's development after the quality cycle is implemented. Comparative studies across different Islamic Montessori institutions are also recommended to examine whether the proposed framework is transferable to other educational contexts.

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Conflicts of Interest: Conflicts of Interest: The author is affiliated with Alif Montessori School Pekanbaru as part of the institution's management. This position is declared transparently as a potential conflict of interest. The author has attempted to maintain research objectivity through data triangulation, documentation, and the use of multiple informant perspectives. Reflexive attention was also applied during analysis by comparing the author's interpretations with field notes, interview evidence, and institutional documents to reduce confirmatory bias.

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