Implementation Of Baḥsul Masā'il In Developing College Students' Critical Thinking Skills Through Science Education At Pesantren

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Abstract:

This study investigates the implementation of Baḥsul Masā'il as a pedagogical model for enhancing critical thinking skills among university students in Islamic boarding school-based higher education. Through a qualitative research design conducted at Islamic University of Tribakti Lirboyo Kediri, Pesantren Sunan Drajat Institute of Lamongan, and Al Fithrah Institute Surabaya, the study explores how traditional Islamic deliberative practices can be integrated with science education to foster analytical reasoning, ethical judgment, and epistemological integration. Findings reveal that Baḥsul Masā'il, when applied in dialogical, contextual, and interdisciplinary ways, supports students in interpreting classical texts, evaluating arguments, and synthesizing religious knowledge with scientific inquiry. The research identifies key enabling factors such as the presence of knowledgeable facilitators and access to classical and scientific texts, alongside constraints like time limitations and low scientific literacy. Theoretically, Baḥsul Masā'il is shown to embody the principles of Islamic rational inquiry and supports holistic learning aligned with UNESCO's Four Pillars of Education. As a result, the study offers a culturally rooted yet globally relevant pedagogical framework that contributes to the ongoing development of both the science of education and Islamic educational praxis.

Keywords: *Baḥsul Masā'il, Critical Thinking Skills, Science Education, Pesantren Pedagogy*

1.   INTRODUCTION

In the rapidly evolving landscape of the 21st century, critical thinking has emerged as a fundamental skill in education across the globe (Arbani, Nasution, & Hasyim, 2022). The ability to analyze information, evaluate arguments, and make reasoned decisions is increasingly regarded as a key competency for students navigating the complexities of modern life. Within the context of Islamic education, particularly in Islamic boarding schools (*pesantren*), the urgency of cultivating critical thinking is no less significant. As institutions historically rooted in the preservation and transmission of Islamic knowledge, *pesantren* face the dual challenge of maintaining tradition while engaging with contemporary scientific and technological advancements. (Prihantoro & Suyadi, 2021)

Modern Islamic education must respond to global demands for innovation, interdisciplinary integration, and analytical reasoning. While traditional methods of instruction in *pesantren* have emphasized memorization (*ḥifẓ*), recitation (*qirāʾah*), and textual study (*muṭālaʿah*), these alone are insufficient for equipping students to address complex societal and ethical issues (Edison, Anwar, & Mamla Saidah, 2022). As Muslim societies confront questions related to science, technology, and modernity, there is a pressing need for educational models that nurture independent, reflective, and critical thought (Mirza, 2024).

The urgency of embedding critical thinking in Islamic education is further underscored by the call of contemporary Islamic scholars and educators for an epistemological renewal. They argue for a balanced approach that honors classical Islamic scholarship while promoting intellectual openness and inquiry (Inda, Gibreil, Elbadawi, Salem, & Gurafi, 2024). This aligns with broader educational goals articulated by

international frameworks, such as the Four Pillars of Education proposed by UNESCO learning to know, to do, to be, and to live together all of which presuppose a foundation of critical awareness and rational engagement (Hasan, 2023).

In this context, the integration of critical thinking into Islamic science education is not only a pedagogical imperative but also a theological and civilizational necessity. It provides students with the tools to reconcile faith with reason, tradition with innovation, and religious values with scientific understanding (Amira Schreiber, Yusuf Wagner, & Leyla Becker, 2024). Therefore, exploring models of education that support the development of critical thinking within Islamic institutions such as the implementation of *Baḥsul Masā'il* (problem-based group discussion rooted in Islamic jurisprudence) is essential for shaping intellectually resilient and socially responsive Muslim scholars (Syamsudin, 2020).

However, despite the recognized importance of critical thinking and the integration of scientific literacy in Islamic educational discourse (Saepudin, 2022), a persistent challenge in modern Islamic education especially within *pesantren* is the disconnect between contemporary scientific approaches and the traditional epistemological frameworks embedded in classical Islamic scholarship (Arbani dkk., 2022). While *pesantren* have historically played a pivotal role in preserving Islamic knowledge, their pedagogical orientation often remains resistant to methodologies rooted in empirical sciences or critical inquiry. This has led to a fragmented educational experience for students who are increasingly exposed to modern disciplines but lack the intellectual scaffolding to reconcile these with the ethical and spiritual foundations of their religious tradition (Azzami, Sirait, & Muqowim, 2024).

The problem is not merely institutional, but epistemological. Many Islamic boarding schools uphold a dichotomous view that separates *revealed knowledge* (al-ʿilm al-naqlī) from *acquired knowledge* (al-ʿilm al-ʿaqlī), resulting in a curriculum where scientific reasoning is viewed as foreign or even contradictory to Islamic orthodoxy (Aliyah, Thabrani, Rodliyah, Amal, & Samosir, 2024) (Aslihah & Wasehudin, 2023). This compartmentalization hinders students from developing a holistic worldview in which religious and rational sciences can coexist and enrich one another. As a result, students may either adopt a superficial understanding of science devoid of moral grounding, or embrace religious doctrine without the analytical tools needed to apply it to contemporary contexts (Prihantoro & Suyadi, 2021).

This epistemological gap contributes to a broader crisis of relevance in Islamic education. Without meaningful integration, students often fail to see the connection between what they study in their religious classes and the scientific or societal challenges they encounter beyond the *pesantren* walls. Consequently, the development of critical thinking remains stunted, and the potential of *pesantren* to produce future Muslim intellectuals capable of engaging with global discourses is significantly undermined (Hellen Tiara & Danu, 2023).

In response to this epistemological and pedagogical disconnect, there is an urgent need to reimagine educational models in Islamic higher education that are both rooted in local wisdom and responsive to the demands of modern science education. One such indigenous pedagogical practice is *Baḥsul Masā'il* a structured forum for collective inquiry and problem-solving, traditionally employed in *pesantren* settings to address contemporary issues through the lens of Islamic jurisprudence (Suherdiana & Suryana, 2021). While historically grounded in *fiqh* discourse, *Baḥsul Masā'il* possesses inherent pedagogical potential that extends beyond legal reasoning. Its dialogical, reflective, and contextual nature aligns with the principles of critical thinking, making it a promising framework for bridging traditional Islamic education and modern scientific inquiry (Khovi, Alfaridli, & Hamzah, 2023).

Baḥsul Masā'il embodies a form of intellectual engagement that emphasizes collaborative reasoning (*musyawarah*), evidence-based argumentation (*istidlāl*), and ethical consideration (*maṣlaḥah*), all of which are essential in fostering higher-order thinking skills among student (Arifin & Muttaqin, 2020). Repositioning this local pedagogical tradition within the structure of science education can help students internalize scientific reasoning not as a foreign paradigm, but as a process compatible with Islamic intellectual heritage (Mu'asyara, Ulfa, Arfandi, Yurike, & Fattah, 2024). Moreover, it allows for the construction of knowledge

that is both contextually relevant and spiritually grounded, addressing the cognitive and moral development of students in a holistic manner.

Despite the recognized value of *Baḥsul Masā'il* within Islamic educational traditions, there remains a significant gap in scholarly literature regarding its integration into modern pedagogical frameworks particularly in relation to science education. Most existing studies focus on *Baḥsul Masā'il* as a legal or theological exercise, overlooking its potential as a dialogic and inquiry-based learning model that fosters critical thinking (Kurniawan & Maheswari, 2021). Even fewer attempts have been made to situate this traditional method within international educational paradigms, such as the UNESCO's Four Pillars of Education, which emphasize holistic development: learning to know, to do, to be, and to live together (Hasan, 2023).

Therefore, this paper argues that implementing *Baḥsul Masā'il* within the framework of science education in Islamic boarding schools can significantly enhance students' critical thinking skills. By contextualizing scientific inquiry within a culturally rooted, dialogical, and ethical learning process, this study proposes a novel pedagogical model that bridges the epistemological gap between Islamic tradition and modern science. This research aims to demonstrate that local educational wisdom when aligned with international educational values can produce a transformative approach to science education that is both intellectually rigorous and spiritually meaningful.

2. METHOD

This research employed a qualitative descriptive approach, following the design outlined by (Creswell, 2014), to explore how *Baḥsul Masā'il* can be implemented as a culturally rooted pedagogical strategy to develop students' critical thinking skills in science education. The qualitative approach was chosen to provide an in-depth and holistic understanding of educational phenomena within their natural settings. Fieldwork was conducted over a period of four months, from January to April 2025, in three higher education institutions representing different academic and pesantren-based cultures: Islamic University Tribakti Lirboyo Kediri (UIT), Pesantren Sunan Drajat Institute of Lamongan (INSUD), and Al Fithrah Institute Surabaya (IAF).

Data were collected through in-depth interviews, participant observation, and document analysis. The informants involving 12 participants across the three institutions, consisting of science lecturers, Islamic education lecturers, curriculum developers, and senior students involved in *Baḥsul Masā'il* forums. Interviews were semi-structured, allowing flexibility while maintaining focus on the role of *Baḥsul Masā'il* in promoting critical thinking. Observations were conducted in classroom settings and during scheduled *Baḥsul Masā'il* sessions, with the researcher participating and documenting dialogic interactions. Documents such as syllabi, curriculum guidelines, and official reports were analyzed to understand how science education and traditional Islamic methods were formally structured and articulated.

Data were analyzed using the Miles and Huberman interactive model, consisting of data reduction, data display, and conclusion drawing and verification. In the reduction phase, interview transcripts, field notes, and documents were coded thematically (B. Miles, Huberman, & Saldaña, 2014). The data display phase involved organizing these codes into categories and visual representations to reveal emerging patterns. In the final stage, conclusions were drawn, reviewed, and verified using triangulation across data sources and methods. To ensure credibility, the research employed triangulation of techniques and sources, and conducted member checking by sharing preliminary findings with key informants for feedback and validation. This operational framework allowed the researcher to interpret how *Baḥsul Masā'il*, when aligned with scientific thinking, contributes to a holistic educational experience that bridges traditional Islamic values with modern academic demands (Fitriyanti & Haryanto, 2024).

To visually clarify the structure and process of this qualitative study, the following flowchart outlines the research design, research sites, methods of data collection, and analysis techniques employed. This diagram helps to succinctly illustrate the progression and interconnectedness of each methodological component in this study.
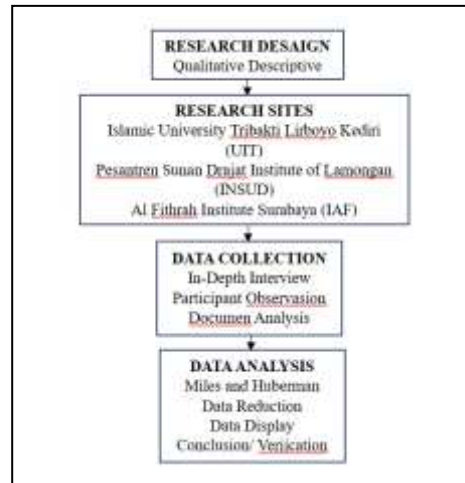
Figure 1. Research Design Flowchart

3.   FINDINGS AND DISCUSSIONS

Profiles and Implementation Models of Baḥsul Masā'il

This study was conducted across three Islamic higher education institutions that integrate traditional pesantren values: UIT Lirboyo Kediri, INSUD Lamongan, and Institut Al-Fithrah Surabaya. Each institution applies *Baḥsul Masā'il* (BM) in a distinctive manner, reflecting varying pedagogical orientations and levels of student engagement. At UIT, *Baḥsul Masā'il* is conducted weekly using a classical-open model, where students critically examine contemporary issues through classical Islamic texts (*turāth*) in guided group discussions. This model provides a conducive environment for the development of logical reasoning, argumentation, and dialogical skills.

INSUD adopts a thematic-integrative model, embedding *Baḥsul Masā'il* within science-based curricula. Students discuss ethical and societal implications of scientific advancements such as genetic engineering or climate change through the lens of *maqāṣid al-sharī'ah*. While less frequent than at UIT Lirboyo Kediri, this model bridges scientific knowledge with Islamic ethical discourse. At Institut Al-Fithrah, *Baḥsul Masā'il* adopts a textual-contextual model emphasizing classical texts and Sufi interpretations of social and religious challenges. Conducted monthly, it focuses more on shaping students' character and inner spirituality rather than formal argumentation.

The table below presents a comparative overview:

Implementation Aspect	UIT	INSUD	Al-Fithrah
Model of BM	Classical-Open	Thematic-Integrative	Textual-Contextual
Frequency	Weekly	Biweekly	Monthly
Facilitators	Lecturers & Kyai	Lecturers	Kyai
Student Involvement	High (60–70%)	Moderate (40–50%)	Low (20–30%)

Data were obtained through direct observation and in-depth interviews with lecturers, kyai (religious leaders), and student participants

Development of Students' Critical Thinking through Baḥsul Masā'il

Critical thinking development was assessed using six dimensions of the *California Critical Thinking Skills Test (CCTST)*: interpretation, analysis, evaluation, inference, explanation, and self-regulation (Bycio & Allen, 2009). Data were collected through participant observation in *Baḥsul Masā'il* sessions, analysis of student essays, and structured interviews.

Critical Thinking Dimension	UIT	INSUD	Al-Fithrah
Interpretation	4.2	3.8	3.5
Analysis	4.0	3.6	3.3
Evaluation	4.1	3.7	3.2
Inference	4.0	3.5	3.1
Explanation	3.9	3.6	3.0

Scale: 1 (Very Low) – 5 (Very High)

Findings indicate that students participating in more intensive and dialogical *Baḥsul Masā'il* sessions, as in UIT, demonstrate higher levels of critical thinking. The most pronounced dimensions were interpretation and evaluation, indicating students' ability to deconstruct classical texts and evaluate arguments in light of contemporary contexts.

Theoretical Interpretation: Baḥsul Masā'il as a Catalyst for Critical Thinking

Baḥsul Masā'il (BM) can be theoretically interpreted not merely as a traditional discursive ritual, but as a dynamic pedagogical strategy that fosters students' critical thinking skills through structured dialogical reasoning. Within the framework of constructivist learning theory, particularly drawing from Vygotsky's sociocultural theory, *Baḥsul Masā'il* serves as a cultural tool through which students co-construct knowledge and internalize higher-order cognitive processes via meaningful social interaction (Rahayu, Widodo, & Sudibyo, 2023; Wibowo, Wangid, & Firdaus, 2025). It provides a unique epistemological space where learners engage in dialogic inquiry, evaluate arguments, and reconcile classical religious reasoning with contemporary scientific challenges.

Three primary mechanisms were identified as instrumental in the cultivation of critical thinking within *Baḥsul Masā'il* practice:

a.	Dialogical Engagement

At the heart of *Baḥsul Masā'il* lies a dialogical format that obligates students to engage in structured argumentative discourse. They are required to articulate their viewpoints, respond to counterarguments, and substantiate their reasoning using credible *naqli* (textual) and *'aqli* (rational) sources. This process not only enhances their ability to express and defend ideas but also develops their openness to other perspectives and their skills in evaluating contrasting positions. Vygotsky emphasized the role of language and social interaction as mediators of thought, and in *Baḥsul Masā'il*, dialogical encounters provide the scaffold for developing cognitive flexibility, clarity of thought, and evidence-based reasoning. Such intellectual exchanges are not adversarial but grounded in adab al-ikhtilāf the ethics of disagreement which is vital in shaping respectful, reasoned, and dialogically mature individuals (Wibowo dkk., 2025).

b.	Intellectual Reflection

Baḥsul Masā'il requires students to engage with classical Islamic texts *kitab turāth* while reflecting critically on their applicability to contemporary issues. In doing so, they are invited to reflect on underlying assumptions, hermeneutical methods, and socio-cultural relevance of classical arguments. This reflective activity is not passive contemplation but an active intellectual synthesis that aligns with John Dewey's conception of reflective thinking, where experience is interrogated and reconstructed (Rodgers, 2002). Through structured guidance from facilitators and kiai, students learn to critically appraise religious discourses and identify how traditional knowledge can inform, illuminate, or challenge current societal and scientific realities. This reflective practice contributes to the development of metacognitive awareness, enabling students to think about their thinking, evaluate their cognitive processes, and make informed judgments hallmarks of critical thinking (Thorndahl & Stentoft, 2020).

c.	Epistemic Integration

Perhaps the most distinctive contribution of *Baḥsul Masā'il* lies in its potential for epistemic integration a process through which students synthesize religious and scientific epistemologies. *Baḥsul Masā'il* discussions frequently confront questions where scriptural reasoning intersects with empirical realities, such as environmental ethics, biotechnology, or medical practices. In these situations, students are encouraged to engage in multi-source reasoning, weighing scriptural injunctions alongside scientific data and sociological insights. This enables a more holistic worldview, where the sacred and the empirical are not positioned in binary opposition but are harmonized through epistemological pluralism. Such integration nurtures transdisciplinary thinking the ability to move across domains of knowledge while maintaining coherence and critical integrity (Widodo, 2022). The process fosters what Al-Attas referred to as *ta'dīb*, the cultivation of integrated, disciplined intellect that aligns ethical, rational, and spiritual dimensions of knowledge (Arfiani, Wiyanto, & Ridlo, 2024).

The findings of this study are in line with Hidayatulloh, who examined contextual learning through *Baḥsul Masā'il* activities at Pondok Pesantren Al-Muhibbin Bahrul Ulum Tambakberas Jombang. His research shows that students engaged in *Baḥsul Masā'il* are not only practicing classical jurisprudential reasoning but also applying it to real-world social issues, thus bridging traditional Islamic epistemology with contemporary community challenges. This form of contextualized religious inquiry fosters both analytical depth and relevance, allowing learners to connect normative values with lived realities (Miptakhul Ulum, 2021).

In parallel, Saepudin emphasizes the necessity of a pedagogical framework within Islamic education that systematically develops critical thinking. He argues that Islamic learning environments must intentionally cultivate analytical competencies such as reasoning, interpretation, and judgment, grounded in both revelation and rationality. His proposed framework supports dialogical learning and problem-based strategies, which resonate with the pedagogical functions of *Baḥsul Masā'il* when positioned within a modern educational structure (Saepudin, 2022).

Together, these studies affirm that *Baḥsul Masā'il*, when practiced with contextual relevance and guided facilitation, can serve as a vehicle for promoting higher-order thinking skills in Islamic education. It not only encourages students to articulate arguments based on scriptural reasoning (*istidlāl*) and collective consultation (*musyawarah*), but also instills intellectual humility and ethical reflection (*maṣlaḥah*) qualities essential for critical engagement in an increasingly complex world.

Therefore, *Baḥsul Masā'il* represents more than a preservation of Islamic jurisprudential discourse; it serves as a transformative educational model that integrates classical Islamic pedagogy with contemporary critical thinking imperatives. It provides a culturally rooted yet intellectually rigorous framework that addresses the challenges of modernity while preserving the integrity of Islamic epistemology. The study thus positions *Baḥsul Masā'il* as a powerful and contextually embedded pedagogy capable of advancing students' critical consciousness in science-related learning, particularly within the unique ecosystem of Islamic boarding schools (Karimullah, 2023).

Integrating Science Education and Religious Discourse: Toward Holistic Learning

A significant theoretical and practical contribution of this study lies in demonstrating how *Baḥsul Masā'il* (BM) functions as a powerful pedagogical mechanism for integrating science education with Islamic ethical reasoning, creating a framework of holistic learning that is both culturally rooted and globally relevant. Rather than positioning scientific knowledge and religious discourse in opposition, the practice of *Baḥsul Masā'il* enables students to engage in epistemological synthesis, where scriptural sources and empirical inquiry co-inform one another in tackling complex contemporary issues (Qadir, 2022).

Empirical observations at INSUD, one of the research sites, revealed that students participating in *Baḥsul Masā'il* forums actively engaged with real-world challenges ranging from bioethics in reproductive technology, environmental degradation, to technological dilemmas such as AI and digital surveillance. These topics were discussed not only from the lens of scientific causality and technical problem-solving but also through Islamic jurisprudential frameworks (fiqh al-bi'ah, maqāṣid al-sharī'ah) and ethical deliberation rooted in the Qur'an and Sunnah. Students collaboratively examined the moral implications of scientific advancements, often

debating questions such as: *To what extent should biotechnology be regulated according to Islamic ethics?* or *How does the principle of la ḍarar (no harm) apply to environmental sustainability?*

This integrative approach to learning resonates profoundly with UNESCO's Four Pillars of Education, which advocate for a comprehensive model of human development beyond cognitive acquisition:

a.   Learning to Know

Baḥsul Masā'il encourages students to go beyond rote memorization or textbook-based knowledge. In *Baḥsul Masā'il* sessions, students are required to seek out interdisciplinary sources, analyze scientific data, and interpret Islamic legal and ethical texts in relation to empirical evidence. This promotes intellectual curiosity and inquiry, hallmarks of lifelong learning. Students learn how to "know" by navigating the intersection of tradition and innovation, revelation and experimentation, text and context (Abdallah, Alkaabi, & Al-Riyami, 2024).

b.   Learning to Do

Critical thinking in *Baḥsul Masā'il* is not confined to theory; students are expected to apply their knowledge in collaborative problem-solving activities. The format of *Baḥsul Masā'il* often involving case analysis, argument construction, and resolution drafting simulates real-life decision-making processes. Through structured dialogues, students gain not only conceptual understanding but also practical competencies in ethical judgment, communication, negotiation, and critical synthesis. These are vital 21st-century skills needed in navigating complex socio-scientific realities (Karimullah, 2023).

c.   Learning to Be

One of the unique features of *Baḥsul Masā'il* as a pedagogical practice is its transformative impact on students' personal and spiritual development. The dialogical nature of *Baḥsul Masā'il* fosters a reflective engagement with one's beliefs, responsibilities, and intellectual agency. Students are not mere passive recipients of religious rulings or scientific facts; they are co-constructors of meaning, engaging in a process of moral reasoning and identity formation. This process nurtures *akhlāq al-karīmah* (noble character), spiritual maturity, and ethical accountability, as students learn to assess both the truth and consequences of their arguments (Kasim, 2024).

d.   Learning to Live Together

Baḥsul Masā'il also functions as a laboratory of tolerance and intercultural dialogue, especially when practiced in institutions that are not exclusively religious in orientation, such as INSUD. In such settings, students from diverse academic and theological backgrounds are brought into a shared discursive space, where they are encouraged to listen actively, disagree respectfully, and constructively negotiate plural perspectives. This aspect of *Baḥsul Masā'il* directly cultivates civic virtues such as empathy, respect for difference, and cooperative engagement, which are increasingly crucial in today's polarized societies (Hogarth, Matthiesen, & Bakken, 2022).

In this integrative model, *Baḥsul Masā'il* embodies a dialogical pedagogy that bridges scientific rationality with Islamic ethical worldviews. Rather than adopting a compartmentalized approach to knowledge, *Baḥsul Masā'il* fosters what can be called epistemic coherence, where different domains of knowing are harmonized through a reflective and values-oriented lens. This synthesis responds to a growing global need for educational models that do not only produce technically competent graduates but also ethically grounded and socially conscious individuals (Binti Othman & Muhammad Yusof, 2023).

Moreover, this model demonstrates how Islamic educational traditions can contribute meaningfully to global discourses on education reform. In contrast to reductive portrayals of religious education as dogmatic or pre-

modern, *Baḥsul Masā'il* showcases the capacity of Islamic pedagogy to engage with contemporary epistemological challenges and to cultivate critical, reflective, and socially responsive learners. The study thus offers a compelling case for recognizing *Baḥsul Masā'il* not merely as a heritage practice, but as a relevant and adaptive educational method in the age of globalization, climate crisis, and technological disruption (Asiah & Desky, 2025).

Enabling and Constraining Factors in the Implementation of Baḥsul Masā'il for Critical Thinking Development

The implementation of *Baḥsul Masā'il* (BM) as a pedagogical strategy aimed at cultivating students' critical thinking abilities is influenced by a combination of enabling and constraining factors (Sya'diyah, 2025). This study identified several structural, cultural, and epistemic conditions that either facilitate or hinder the effectiveness of *Baḥsul Masā'il* in the context of Islamic higher education, particularly within pesantren-based institutions and state universities with Islamic studies programs.

Enabling Factors

Several positive conditions were observed that significantly enhance the pedagogical efficacy of *Baḥsul Masā'il*. These include institutional, cognitive, and cultural supports that collectively contribute to the formation of a dialogically rich and intellectually engaging learning environment.

Active Role of Facilitators

One of the most influential enablers is the active and strategic involvement of knowledgeable facilitators, including university lecturers, pesantren kyai, and senior students trained in both classical Islamic scholarship and modern educational methodologies. These facilitators play a critical role in maintaining intellectual discipline, guiding students through complex argumentation, and encouraging critical interrogation of sources. Their presence not only legitimizes the discourse but also models epistemic humility and analytical rigor. Facilitators often employ probing questions, Socratic methods, and counter-perspectives that challenge students to refine their reasoning, thereby fostering deep learning and intellectual resilience (Rahayu dkk., 2023).

Access to Classical and Scientific Texts

Another crucial enabler is the availability of diverse textual resources, encompassing both kitab turāth (classical Islamic texts) and contemporary scientific literature. In institutions where students have access to such a balanced corpus of epistemic sources, *Baḥsul Masā'il* becomes a truly interdisciplinary exercise. Students are not only able to retrieve authoritative scriptural arguments but also critically assess these in light of empirical evidence, ethical considerations, and real-world scientific problems. This fusion of naqli and 'aqli knowledge sources fosters epistemological pluralism and prepares students to confront complex challenges that require both normative and technical reasoning (Zarkasih, Yusuf, Hasanuddin, & Susilawati, 2020).

Culture of Discourse and Musyāwarah Tradition

The pesantren tradition of musyāwarah (deliberative consultation) provides a fertile ground for cultivating dialogical engagement. This cultural norm of respectful disagreement, deeply embedded in pesantren pedagogy, enables students to engage in critical discussion without fear of reprisal or loss of face. The practice of musyāwarah fosters an environment in which critical inquiry is not only tolerated but celebrated, forming the socio-cultural foundation upon which *Baḥsul Masā'il* thrives. This discourse culture aligns with Islamic traditions of adab al-ikhtilāf (etiquette of disagreement) and contributes to the formation of a democratic learning atmosphere where multiple viewpoints can coexist and be constructively debated (Palange, 2022).

Constraining Factors

Despite the aforementioned strengths, the study also uncovered several constraints that limit the transformative potential of *Baḥsul Masā'il*. These inhibiting factors both structural and cognitive diminish the depth, consistency, and scope of critical engagement among students.

Tendency Toward Taqlīd (Blind Imitation)

A significant pedagogical challenge is the tendency of some students to engage in taqlid the uncritical acceptance of authoritative opinions without independent reasoning or textual analysis. This cognitive disposition undermines the dialogical purpose of *Baḥsul Masā'il*, reducing it to a ritualistic affirmation of received knowledge. While respect for authority is a valued Islamic virtue, overreliance on it stifles intellectual autonomy and limits students' ability to formulate and defend original arguments. This is particularly problematic when students defer to specific madhhab (schools of thought) rulings without examining their underlying principles or socio-historical contexts.

Limited Scientific Literacy

The limited exposure to scientific literacy among students and facilitators presents another major constraint. In several cases, it was observed that students lacked foundational knowledge in the natural or social sciences, making it difficult to engage meaningfully with interdisciplinary problems presented during *Baḥsul Masā'il* sessions. This gap is exacerbated by the shortage of instructors with both Islamic and scientific competencies, thereby weakening the integration of scientific perspectives into the discourse. As a result, discussions often revert to purely juridical reasoning, bypassing the empirical or technological dimensions of the issues at hand.

Time Constraints and Curricular Marginalization

Finally, structural limitations within the academic calendar present practical barriers to the consistent implementation of *Baḥsul Masā'il*. In many institutions, *Baḥsul Masā'il* is treated as an extracurricular or peripheral activity, often conducted outside formal classroom hours or during short-term workshops. Due to tight course schedules, exam preparation, and thesis obligations, students struggle to commit adequate time to *Baḥsul Masā'il* preparation and participation. Consequently, *Baḥsul Masā'il* is often reduced to a symbolic practice rather than a sustained educational methodology. This marginalization restricts its scalability and diminishes its long-term impact on students' cognitive development.

Recommendations and Implications

These findings point to several strategic recommendations. First, there is an urgent need for curricular integration of *Baḥsul Masā'il* into formal course structures, particularly within subjects that require ethical reasoning, policy analysis, or interdisciplinary thinking. *Baḥsul Masā'il* should be recognized as a core pedagogical tool rather than an extracurricular enhancement. Second, institutions must invest in the training of facilitators who possess dual competencies in Islamic scholarship and scientific disciplines. Such training programs can enhance the quality and depth of *Baḥsul Masā'il* sessions and expand students' access to interdisciplinary insights.

Third, it is essential to enhance scientific literacy among students in Islamic studies programs by introducing foundational science modules and encouraging collaboration with faculty from other disciplines. Lastly, institutional support, including the allocation of academic credit, scheduling flexibility, and the provision of resource-rich environments (libraries, digital archives), will ensure that *Baḥsul Masā'il* can function as an integrated, high-impact educational practice.

In sum, while Baḥsul Masā'il holds significant promise as a culturally grounded pedagogy for critical thinking development, its effectiveness depends on a set of enabling conditions that must be institutionally and pedagogically nurtured. Addressing the identified constraints through targeted reforms can ensure that *Baḥsul*

Masā'il becomes not only a tradition preserved, but a pedagogical innovation sustained and expanded in modern Islamic education.

Epistemological Significance in Islamic Educational Philosophy

The practice of *Baḥsul Masā'il* (BM), while often viewed through the lens of legal deliberation or theological discourse, holds a deeper significance within the epistemological and philosophical traditions of Islamic education. At its core, *Baḥsul Masā'il* represents a dynamic manifestation of the Qur'anic call toward intellectual engagement and spiritual reflection, grounded in the principles of *ijtihād* (independent reasoning), *taʿaqqul* (rational inquiry), *tafakkur* (deep contemplation), and *iʿtibār* (critical inference based on observation and analogical reasoning) (Hellen Tiara & Danu, 2023).

These principles are not merely abstract values, but epistemic imperatives explicitly articulated in numerous Qur'anic verses. The Qur'an persistently urges believers to reflect upon the signs (*āyāt*) of the universe, to reason with clarity and fairness, and to pursue knowledge that leads not only to empirical understanding but also to moral and spiritual elevation. As such, *Baḥsul Masā'il* can be interpreted as a pedagogical actualization of the Qur'anic epistemology, wherein learning is oriented toward both the cultivation of reason and the refinement of the self.

Baḥsul Masā'il as a Vehicle for Islamic Rationalism and Critical Inquiry

In traditional Islamic scholarship, *ijtihād* has long been regarded as a symbol of intellectual vitality an expression of the scholar's moral and rational responsibility to derive solutions for complex issues based on the principles of the Sharī'ah. *Baḥsul Masā'il*, as practiced in pesantren and adapted in higher education contexts, revives this legacy by offering structured spaces for students to engage in authentic problem-based learning, anchored in both textual sources and real-world dilemmas (Kamali, 2008).

The process of deliberation in *Baḥsul Masā'il* sessions demands more than rote memorization or passive reception of authoritative views. It requires students to interpret, synthesize, and evaluate diverse sources ranging from Qur'anic exegesis and hadith analysis to contemporary empirical data. In doing so, *Baḥsul Masā'il* becomes a site of active knowledge construction, mirroring the constructivist learning model emphasized by educational theorists such as Vygotsky and Dewey, yet rooted in a distinctly Islamic epistemological framework (Hariyati, Nursalim, Fitri, Heriyanto, & Destrianto, 2025) (Wibowo dkk., 2025).

Spiritual Dimensions: *Baḥsul Masā'il* as Tazkiyat an-Nafs through Knowledge

Beyond its cognitive dimension, *Baḥsul Masā'il* also functions as a process of spiritual purification and character formation (*tazkiyat an-nafs*). Within Islamic pedagogy, the pursuit of knowledge is inherently a form of worship, and the ethical disposition of the learner is as important as their intellectual capacity. In this light, *Baḥsul Masā'il* is not only a medium for developing critical thinking but also a means for nurturing humility, sincerity, and moral accountability (Mensah, 2025) (Susantini, Sari, Asteria, & Marzuqi, 2025).

The dialogical nature of *Baḥsul Masā'il* promotes *adab al-bahth* (etiquette of inquiry), wherein participants are trained to listen attentively, respect opposing views, and argue with integrity. This ethical discipline aligns with the Islamic ideal of the scholar as a seeker of truth (*ṭālib al-ḥaqq*), rather than a mere accumulator of information. Through sustained exposure to such dialogical and reflective practices, students internalize the virtues of patience, self-discipline, and intellectual honesty qualities that are indispensable for both academic success and spiritual maturity (Žydziūnaitė, 2025).

Recontextualizing Classical Traditions in Contemporary Academia

One of the most compelling aspects of *Baḥsul Masā'il* is its ability to recontextualize classical Islamic methodologies within the framework of modern education. Rather than relegating traditional practices to

the margins of academic life, *Baḥsul Masā'il* demonstrates how they can be meaningfully integrated into contemporary curricular structures. For instance, students engaged in *Baḥsul Masā'il* at institutions like INSUD and Institut Al Fithrah were encouraged to analyze ethical questions surrounding biotechnology, climate change, and artificial intelligence from both Islamic and scientific standpoints (Diptaningsari & Martono, 2021).

This recontextualization is not a superficial adaptation, but a profound attempt to preserve the authenticity of Islamic intellectual heritage while making it responsive to the epistemic and societal challenges of the 21st century. In doing so, *Baḥsul Masā'il* serves as a bridge between classical jurisprudential tools and contemporary problem-solving needs. It affirms that Islamic education, when properly situated, can be both tradition-rooted and future-oriented, resisting the dichotomy often imposed between religion and modernity (Sugiarto, 2025).

Toward an Islamic Philosophy of Critical Thinking

Through the lens of *Baḥsul Masā'il*, critical thinking is not perceived as a secular or Western import, but as an integral component of Islamic intellectual and spiritual tradition. The Qur'anic emphasis on *taʿaqqul* and *tafakkur* reveals that critical thinking is not only permitted but mandated within Islamic thought. *Baḥsul Masā'il* operationalizes this command by providing structured opportunities for students to question, analyze, and reason within ethical boundaries informed by divine guidance (Muhammad Abuzar, Mahmudulhassan, & Saif Uddin Ahmed Khondoker, 2025).

Baḥsul Masā'il embodies a relational epistemology one that is dialogical, contextual, and value-laden. Knowledge is not pursued in isolation but emerges through communal reflection and moral deliberation. This epistemological stance is particularly relevant in a globalized, pluralistic world, where students must navigate competing truth claims and value systems. *Baḥsul Masā'il* trains them not only to think critically but also to do so with compassion, responsibility, and a deep sense of purpose (Golden, 2023).

The epistemological significance of *Baḥsul Masā'il* lies in its ability to synthesize rational inquiry, ethical responsibility, and spiritual aspiration into a unified model of learning. As this study demonstrates, *Baḥsul Masā'il* has the potential to offer Islamic higher education a robust, indigenous framework for cultivating critical thinking one that is both faithful to its religious roots and adaptive to contemporary academic standards. It affirms the enduring relevance of Islamic educational philosophy in shaping holistic, thoughtful, and ethically grounded scholars for the modern world.

Educational Innovation in the Era of Society 5.0

In the contemporary landscape of Society 5.0 characterized by hyper-connectivity, digital transformation, and complex ethical challenges the imperative for educational reform is more pressing than ever. This study responds to that imperative by proposing *Baḥsul Masā'il* (BM) as a culturally grounded yet forward-thinking pedagogical model. Far from being a relic of traditional religious education, *Baḥsul Masā'il* emerges as a dynamic and adaptive method capable of fostering higher-order thinking skills essential for navigating the uncertainty and multidimensionality of modern life. It offers an indigenous framework of innovation that aligns with global educational imperatives while remaining rooted in Islamic intellectual heritage (Bawack, Roderick, Badhrus, Dennehy, & Corbett, 2025).

One of the central contributions of this study lies in its reconceptualization of critical thinking through the epistemological and moral lenses of the Islamic tradition. In contrast to secular models that often emphasize cognitive skills in isolation, *Baḥsul Masā'il* cultivates what might be termed *critical literacy* the capacity to interrogate and synthesize diverse knowledge systems while maintaining fidelity to ethical and spiritual values.

Students trained through *Baḥsul Masā'il* are not only able to question, reason, and evaluate, but are also equipped to engage in interdisciplinary discourse that bridges the gap between religious knowledge and contemporary scientific inquiry.

Baḥsul Masā'il fosters a value-oriented intellectual character. Its emphasis on ethical deliberation, scriptural interpretation, and dialogical engagement nurtures learners who are anchored in Islamic moral principles and committed to social responsibility. This grounding provides a necessary counterbalance to the relativism and ethical ambiguity that often accompany postmodern and digitized modes of learning. By embedding ethics at the heart of inquiry, *Baḥsul Masā'il* reinforces the idea that knowledge must serve both the intellect and the conscience shaping students into not just competent professionals but also morally conscious individuals.

In addition to these ethical and cognitive dimensions, *Baḥsul Masā'il* cultivates academic competence and scholarly engagement. As demonstrated in this study, the framework equips students with the analytical skills and epistemic humility necessary to participate in both national and international academic discourses. It empowers them to articulate complex arguments, challenge assumptions, and contribute meaningfully to debates that span religious, scientific, and philosophical domains. In this way, *Baḥsul Masā'il* aligns Islamic educational institutions with global standards of excellence while preserving their unique epistemological identity (Akhtar, 2008).

Ultimately, the findings of this study highlight the potential of *Baḥsul Masā'il* to serve as a strategic model for educational innovation within Islamic higher education. By integrating critical inquiry, ethical reflection, and spiritual formation, *Baḥsul Masā'il* responds to the demands of Society 5.0 without sacrificing cultural authenticity. It affirms that Islamic intellectual traditions far from being obsolete can inform and inspire pedagogical reform in the digital age. Institutionalizing *Baḥsul Masā'il* as part of curriculum development offers a pathway toward producing graduates who are intellectually agile, ethically grounded, and spiritually attuned to the complexities of the modern world.

4.   CONCLUSION

This study finds that the implementation of Baḥsul Masā'il as a pedagogical strategy within science education effectively enhances students' critical thinking skills by embedding dialogical reasoning, ethical judgment, and contextual reflection into the learning process. The most significant discovery previously underexplored is the integration potential of traditional Islamic legal discourse with scientific inquiry in modern academic settings. Rather than functioning solely as a jurisprudential tool, Baḥsul Masā'il emerges as a culturally embedded model of holistic and transdisciplinary education that aligns with international standards such as the Four Pillars of Education by UNESCO. The scope of this research is limited by several constraints: it focuses on only three institutions with varying intensities of Baḥsul Masā'il practice; it involves a limited number of participants with diverse but not fully representative backgrounds; and it applies a qualitative design without longitudinal comparison. These limitations suggest the need for future studies involving larger and more varied samples, broader institutional settings (e.g., female-only pesantren, transdisciplinary faculties), and mixed-methods approaches to assess the long-term impact and scalability of Baḥsul Masā'il as a critical pedagogy. By addressing these limitations, future research may provide deeper insights into how Islamic pedagogical traditions can be institutionalized within contemporary education systems to promote intellectual independence, ethical literacy, and epistemological integration. With more robust data,

policymakers and curriculum developers in Islamic higher education can formulate evidence-based reforms that bridge the gap between classical scholarship and modern scientific learning.

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