

RECONCEPTUALIZING CRITICAL THINKING DEVELOPMENT IN ISLAMIC EARLY CHILDHOOD EDUCATION: AN INTEGRATIVE COGNITIVE–SPIRITUAL FRAMEWORK

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<p>Keywords:</p> <p><i>Retrieval-Augmented Generation (RAG); Islamic education; digital religious literacy; higher-order thinking; AI-assisted pedagogy</i></p>	<p>Abstract</p> <p>The development of critical thinking in Islamic elementary education (Madrasah Ibtidaiyah) requires a conceptual framework that integrates cognitive reasoning with spiritual consciousness. However, existing approaches often position higher-order thinking skills (HOTS) and moral-spiritual formation as separate domains. This study aims to explore the characteristics of critical thinking development within the Madrasah Ibtidaiyah context, formulate an integrative cognitive–spiritual model, and analyze its implementation in enhancing students' critical thinking skills. Employing a qualitative case study design, the research was conducted at SD Islam Cendekia Pasuruan. Data were collected through classroom observations, in-depth interviews with teachers and school leaders, and document analysis of lesson plans and assessment instruments. The findings reveal three major patterns: (1) critical thinking development is characterized by the integration of contextual problem-based inquiry and Qur'anic value reflection; (2) an emerging integrative cognitive–spiritual model operates through a cyclical sequence of analytical stimulation, collaborative argumentation, and ethical-spiritual reflection; and (3) the implementation of this model enhances students' multi-layered reasoning, enabling them to connect empirical analysis, social consequences, and transcendental awareness simultaneously. Nevertheless, the model remains partially institutionalized due to the absence of standardized integrative assessment instruments and systematic pedagogical guidelines. Theoretically, this study contributes to the global discourse on critical thinking by proposing an ethical–epistemic integration framework, positioning critical thinking not as value-neutral skepticism but as reflective reasoning grounded in Islamic epistemology. This framework offers a conceptual bridge between contemporary constructivist theory and the Islamic educational tradition, providing a foundation for developing contextually grounded yet theoretically robust models of critical thinking in Islamic primary education.</p>
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A. Introduction

The development of critical thinking skills has become a global concern in the discourse of 21st-century education. Various international reports emphasize that education is no longer sufficient if it is oriented merely toward content mastery, but must foster higher-order thinking skills (HOTS), including analysis, evaluation, and reflection.¹ However, in practice, early childhood education in many contexts is still dominated by instructional approaches that are teacher-centered and oriented toward memorization.² In the context of Islamic education, particularly in Madrasah Ibtidaiyah (MI), learning often places greater emphasis on the transmission of values and doctrines rather than on dialogue, exploration,

¹ UNESCO, "Rethinking education: Towards a global common good?" (UNESCO Publishing, 2015).

² Barbara Rogoff, *The cultural nature of human development* (Oxford University Press, 2003).

and children's reflective reasoning. This phenomenon indicates a gap between global demands for the development of critical thinking and pedagogical practices that remain normative and textual.

Theoretically, early childhood cognitive development has a strong foundation in Piaget's constructivism and Vygotsky's sociocultural approach, both of which emphasize the importance of interaction, open-ended questioning, and scaffolding in building higher-order thinking abilities.³ Recent studies show that critical thinking skills can be stimulated from the preschool years through reflective dialogue, inquiry-based learning, and problem-based interaction.⁴ However, in Islamic education, this cognitive dimension is often not systematically integrated with the spiritual dimension, even though Islam epistemologically recognizes the importance of reason ('aql), reflection (tafakkur), and contemplation (tadabbur) as part of the learning process.⁵ This condition highlights the need for a conceptual reconstruction that integrates cognitive development with spiritual awareness within a coherent pedagogical framework.

Furthermore, studies on contemporary Islamic education identify an urgent need to develop transformative pedagogical models that not only cultivate ritual piety but also children's intellectual and moral capacities holistically.⁶ The challenges of the digital disruption era also require children from an early age to possess the ability to filter information, think reflectively, and construct ethical reasoning.⁷ Without integration between cognitive and spiritual dimensions, Islamic education risks becoming trapped in a dichotomy between religiosity and rationality. Therefore, this phenomenon reinforces the urgency of developing an integrative cognitive–spiritual framework in Islamic Early Childhood Education to reconstruct learning approaches that align with children's psychological development while remaining grounded in Islamic epistemological principles.

Although global discourse emphasizes the urgency of developing critical thinking in primary education, its implementation in Madrasah Ibtidaiyah (MI) still faces significant pedagogical challenges. International reports indicate that higher-order thinking skills constitute essential competencies of the 21st century that must be developed from the primary education level.⁸ However, learning practices in many primary schools, including MI, remain dominated by memorization-oriented approaches, one-way content delivery, and evaluation based on knowledge reproduction.⁹ In the context of Islamic education, religious instruction often emphasizes normative–doctrinal aspects rather than the development of reflective and dialogical reasoning. This condition potentially limits the growth of students' analytical, argumentative, and critical evaluative abilities during the concrete operational developmental stage.

Another issue concerns the lack of systematic integration between cognitive and spiritual dimensions within the Madrasah Ibtidaiyah (MI) curriculum. Epistemologically, Islam positions reason ('aql) and reflection (tafakkur) as essential instruments for understanding revelation and social reality.¹⁰ However, in practice, Islamic Religious

³ Jean Piaget, *The psychology of the child* (Basic Books, 1972).

⁴ Robert Fisher, *Teaching thinking: Philosophical enquiry in the classroom*, 4 ed. (Bloomsbury, 2013).

⁵ Syed Muhammad Naquib Al-Attas, *The concept of education in Islam: A framework for an Islamic philosophy of education* (International Institute of Islamic Thought and Civilization (ISTAC), 1991).

⁶ Abdullah Sahin, *New directions in Islamic education: Pedagogy and identity formation* (Kube Publishing, 2013).

⁷ OECD, "OECD future of education and skills 2030: OECD learning compass 2030" (OECD Publishing, 2019).

⁸ UNESCO, "Rethinking education: Towards a global common good?"

⁹ Fisher, *Teaching thinking: Philosophical enquiry in the classroom*.

¹⁰ Al-Attas, *The concept of education in Islam: A framework for an Islamic philosophy of education*.

Education in MI is often positioned as the transmission of moral values and religious rituals that are separated from analytical activities and problem solving. In fact, at the concrete operational stage of cognitive development, students begin to understand cause–effect relationships, make classifications, and construct simple arguments.¹¹ This lack of integration creates a dichotomy between religiosity and rationality, leading students to internalize teachings normatively without adequate critical reflection.¹²

In addition, challenges related to teacher professionalism and instructional design constitute crucial factors in the development of critical thinking in MI. Studies indicate that primary education teachers frequently face limitations in designing inquiry-based learning strategies, reflective dialogue, and authentic assessment that foster higher-order thinking skills.¹³ In the MI context, some educators still perceive critical thinking as an activity that may disrupt students' compliance with textual and teacher authority rather than as part of the rational and argumentative intellectual tradition of Islam.¹⁴ This perception reflects epistemological and pedagogical problems that call for a reconstruction of an integrative cognitive–spiritual framework so that the development of critical thinking in Madrasah Ibtidaiyah can proceed harmoniously and contextually.

Previous studies indicate that the development of critical thinking in Madrasah Ibtidaiyah (MI) generally remains focused on the application of specific pedagogical models without a systematic conceptual integration between cognitive and spiritual dimensions. Arifuddin's study found that MI students' critical thinking skills in mathematics learning were still categorized as low despite the implementation of certain instructional interventions.¹⁵ Other research demonstrates that the application of project-based learning significantly improves students' critical thinking compared to conventional methods, while problem-solving learning approaches have also been proven effective in enhancing MI students' analytical skills. In addition, self-regulated learning models have been reported to positively influence the development of students' higher-order thinking skills (HOTS). Within the context of Islamic Religious Education, constructivist learning processes are considered capable of encouraging students' interpretive, analytical, and evaluative abilities, and the integration of inquiry-based Islamic critical thinking in pesantren environments shows increased learners' intellectual engagement. Nevertheless, these studies remain partial and have not formulated an integrative cognitive–spiritual framework that explicitly combines modern cognitive development theory with Islamic epistemology in the MI context, thereby opening conceptual space for this study to propose a more comprehensive integrative model.

B. Methods

This study employs a qualitative approach using a case study design to explore in depth the characteristics of critical thinking development, the formulation of an integrative cognitive–spiritual model, and its implementation and implications within authentic learning contexts. The qualitative approach was selected because it enables researchers to understand educational phenomena holistically and contextually through the interpretation of meaning

¹¹ Piaget, *The psychology of the child*.

¹² Sahin, *New directions in Islamic education: Pedagogy and identity formation*.

¹³ Matthew Lipman, *Thinking in education*, 2nd ed. (Cambridge University Press, 2003).

¹⁴ Sahin, *New directions in Islamic education: Pedagogy and identity formation*.

¹⁵ Arifuddin, "The development of critical thinking skills in mathematics learning at Madrasah Ibtidaiyah," *Jurnal Pendidikan Dasar Islam* 6, no. 2 (2019): 145–60.

from participants' perspectives.¹⁶ The case study design was adopted to investigate intensively a bounded system within a specific setting.¹⁷ The research was conducted at SD Islam Cendekia Pasuruan, which features an integrative curriculum combining general and Islamic education, making it a relevant context for examining the integration of cognitive and spiritual dimensions in critical thinking development.

Research participants were determined through purposive sampling, namely the selection of informants based on criteria aligned with the research needs.¹⁸ Participants included the school principal, Islamic Religious Education teachers, a fifth-grade classroom teacher, and fifth-grade students as primary informants. Data collection techniques included in-depth interviews to explore participants' perspectives and experiences,¹⁹ participant observation to understand instructional practices directly within their natural context,²⁰ and document analysis such as lesson plans, syllabi, and assessment instruments to strengthen empirical data.²¹ Observational focus was directed toward reflective dialogue practices, problem-solving activities, and the integration of spiritual values in classroom interaction, aligned with critical thinking indicators such as analysis, evaluation, and inference.²²

Data were analyzed using thematic analysis, a process involving identification, coding, categorization, and systematic theme development to uncover patterns of meaning in the data.²³ The analysis was conducted inductively to construct an integrative cognitive–spiritual model grounded in field findings. To ensure credibility and trustworthiness, this study applied source and methodological triangulation,²⁴ as well as member checking to confirm the researcher's interpretations with participants.²⁵ The findings are expected to produce a conceptual formulation of an Integrative Cognitive–Spiritual Model for developing critical thinking among Madrasah Ibtidaiyah students while contributing theoretically to the advancement of holistic and reflective Islamic pedagogy.

C. Results and Discussion

Characteristics of Critical Thinking Development in the Madrasah Ibtidaiyah Context

Classroom observations indicate that the development of critical thinking at SD Islam Cendekia Pasuruan is characterized by the emergence of dialogic pedagogical practices, particularly within Islamic Religious Education and Science lessons. Teachers frequently employ open-ended questioning strategies, such as asking, “Why does Allah command

¹⁶ J W Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Thousand Oaks: Sage Publications, 2016).

¹⁷ Robert K Yin, *Case study research and applications: Design and methods*, 6th ed. (Sage Publications, 2018).

¹⁸ Michael Quinn Patton, *Qualitative research & evaluation methods*, 4th ed. (Sage Publications, 2015).

¹⁹ Steinar Kvale dan Svend Brinkmann, *InterViews: Learning the craft of qualitative research interviewing* (Sage Publications, 2009).

²⁰ James P Spradley, *Participant observation* (Holt, Rinehart and Winston, 1980).

²¹ A G Bowen, “Document Analysis as a Qualitative Research Method,” *Qualitative Research Journal* 9, no. 2 (2009): 27–40.

²² Peter A Facione, “Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction” (Millbrae, CA, 1990).

²³ Virginia Braun dan Victoria Clarke, “Using thematic analysis in psychology,” *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101.

²⁴ Norman K. Denzin, *The Research Act: A Theoretical Introduction to Sociological Methods. 2nd ed* (United States of America: Library of Congress Cataloguing, 2009).

²⁵ Yvonna S Lincoln dan Egon G Guba, *Naturalistic inquiry* (Sage Publications, 1985).

humans to protect the environment?” and “What are the consequences of dishonesty in everyday life?” Students are not merely encouraged to provide answers; they are required to justify their reasoning and support it with contextual examples.

In one observed session, a student stated, “If we are dishonest, people will no longer trust us, and it is also sinful.” This response demonstrates the integration of causal reasoning and moral awareness, indicating the coexistence of cognitive evaluation and ethical judgment. However, despite the presence of dialogic interaction, instructional practices remain largely intuitive rather than systematically scaffolded. Questioning techniques are not grounded in an explicit critical thinking framework, suggesting that epistemic engagement occurs incidentally rather than as part of a structured developmental progression. This finding reveals a pedagogical condition in which dialogic interaction is present but lacks formal conceptual grounding within a coherent instructional design.

Interview data reveal that spiritual dimensions are incorporated primarily through reflective closure activities at the end of lessons. As one Islamic Education teacher explained, “I usually invite students to reflect on Qur’anic verses related to the topic so that they not only understand the knowledge but also its meaning.” This practice demonstrates an effort to connect cognitive understanding with spiritual contemplation through *tadabbur* (reflective interpretation). Nevertheless, analysis indicates that such reflective activities tend to be teacher-directed and confirmatory rather than dialogically exploratory. The teacher typically synthesizes and affirms the moral message, limiting students’ opportunities to construct independent interpretative positions. Consequently, the cognitive–spiritual integration operates in a linear trajectory (cognitive content → moral affirmation) rather than in a recursive dialogic model that fosters epistemic agency and reflective autonomy. This finding suggests that while spiritual reflection is present, it functions more as value reinforcement than as a dynamic arena for critical inquiry grounded in Islamic epistemology.

Document analysis of lesson plans (RPP) and instructional modules indicates that Higher-Order Thinking Skills (HOTS) indicators such as “analyzing” and “evaluating” are formally embedded within learning objectives. However, no operational framework was identified that explicitly integrates these cognitive indicators with Islamic spiritual constructs within a unified pedagogical model. For instance, one lesson plan states the objective: “Students are able to analyze honest behavior in daily life.” Yet the corresponding learning activity consists primarily of general group discussion without analytical scaffolding tools, assessment rubrics, or structured reasoning protocols. This discrepancy suggests a curricular misalignment between intended learning outcomes and instructional implementation. Overall, these findings position the school within a transitional pedagogical phase: dialogic interaction, reflective practice, and problem-solving elements are present, yet they remain fragmented and conceptually unintegrated. The absence of a systematic cognitive–spiritual framework limits the potential for sustained and measurable development of critical thinking competencies within an Islamic educational paradigm.

Research findings indicate that dialogic practices through open-ended questioning in the classroom reflect characteristics of cognitive development consistent with Jean Piaget’s theory, particularly the concrete operational stage (ages 7–11), in which children begin to engage in causal reasoning and consider moral perspectives logically.²⁶ Student responses such as, “If we are dishonest, people will no longer trust us, and it is also sinful,” demonstrate the ability to establish causal relationships while simultaneously integrating moral norms. From a Piagetian perspective, this suggests the development of more organized cognitive

²⁶ Piaget, *The psychology of the child*.

structures through processes of assimilation and accommodation.²⁷ However, these practices remain incidental and have not yet been designed within a systematic cognitive developmental progression. Consequently, the potential for cognitive growth has not been fully optimized within instructional designs grounded in developmental theory.

From Lev Vygotsky's perspective, dialogic questioning practices have the potential to function as a Zone of Proximal Development (ZPD), where social interaction serves as a medium for knowledge construction through symbolic mediation and scaffolding.²⁸ However, because scaffolding is not explicitly designed, cognitive mediation processes remain dependent on teacher intuition rather than systematic pedagogical intervention. Without structured and gradual support, dialogic interaction risks remaining at the level of verbal participation without deeper conceptual internalization.²⁹ Therefore, these findings highlight the need for a transformation from intuitive dialogic pedagogy toward a dialogic–structural pedagogy that facilitates students' epistemic agency within primary education contexts.

Within the critical thinking framework, Facione argues that critical thinking encompasses interpretation, analysis, evaluation, inference, explanation, and self-regulation.³⁰ The findings of this study reveal the presence of interpretative and inferential elements but indicate that evaluative and self-regulatory dimensions have not yet been systematically developed. The absence of analytic rubrics and argumentation protocols suggests that higher-order thinking skills (HOTS) indicators have not been epistemologically operationalized within classroom practice.³¹ This condition demonstrates a gap between the intended curriculum and the enacted curriculum, a structural issue frequently observed in competency-based educational reforms of the 21st century.³² Furthermore, this raises a conceptual question regarding the adequacy of Western taxonomy-based critical thinking models within the context of Islamic education.

From the perspective of Islamic epistemology, the integration of spiritual reflection through *tadabbur* represents an effort to unify cognitive and meaning-making dimensions. Al-Attas emphasizes that the ultimate aim of Islamic education is the formation of the *insan adabi*, an individual who understands the hierarchy of knowledge and acts in accordance with divine consciousness.³³ However, the findings indicate that spiritual reflection remains largely affirmative and conclusive rather than functioning as a dialogic space for reflective meaning exploration. This situation reveals an epistemological tension between constructivism, which emphasizes learner autonomy in meaning construction,³⁴ and Islamic epistemology, which recognizes revelation as a normative source of truth.³⁵ This tension should not be viewed as a contradiction but rather as a conceptual opportunity to reconstruct critical thinking as reflective reasoning operating within epistemic boundaries oriented toward divine truth.

²⁷ Jean Piaget, *Genetic Epistemology* (New York: Columbia University Press, 1970).

²⁸ L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes* (Cambridge: MA: Harvard University Press, 1978).

²⁹ David Wood, Jerome S Bruner, dan Gail Ross, "The role of tutoring in problem solving," *Journal of Child Psychology and Psychiatry* 17, no. 2 (1976): 89–100, <https://doi.org/10.1111/j.1469-7610.1976.tb00381.x>.

³⁰ Facione, "Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction."

³¹ Robert H Ennis, "Critical thinking: A streamlined conception," 2015.

³² Michael Fullan, *The new meaning of educational change*, 4 ed. (Teachers College Press, 2007).

³³ Al-Attas, *The concept of education in Islam: A framework for an Islamic philosophy of education*.

³⁴ Piaget, *The psychology of the child*.

³⁵ Al-Attas, *The concept of education in Islam: A framework for an Islamic philosophy of education*.

Meanwhile, Abdullah Nasih Ulwan highlights the importance of integrating *tarbiyah aqliyah* (intellectual education) and *tarbiyah imaniyah* (faith education) through dialogue, modeling, and habituation.³⁶ The findings suggest that faith reinforcement is present but has not fully encouraged students' reflective autonomy. From a character education perspective, Lickona argues that holistic character formation requires the integration of moral knowing, moral feeling, and moral action.³⁷ Current practices remain predominantly focused on moral knowing rather than fostering independent and critical moral reasoning. Therefore, the conceptual contribution of this study lies in the argument that developing critical thinking in Madrasah Ibtidaiyah requires an integrative cognitive–spiritual model that does not merely combine higher-order thinking skills with value reflection but reconstructs critical thinking as a process of ethical–epistemic discernment (*tafaqquh*) that is dialogic, reflective, and structured.

The findings position the madrasah within a transitional phase between moral-transmissive pedagogy and reflective-integrative pedagogy. By synthesizing social constructivist cognitive development theory, critical thinking theory, and Islamic educational epistemology, this study asserts that critical thinking development in Islamic education cannot rely solely on secular cognitive frameworks. A conceptual reconstruction is required that systematically integrates rationality, ethics, and spirituality in order to generate sustained epistemic transformation within contemporary Islamic education paradigms.

An Integrative Cognitive–Spiritual Model for Developing Critical Thinking among Madrasah Ibtidaiyah Students

Field findings indicate the emergence of a pedagogical pattern that can be categorized as an emerging integrative cognitive–spiritual model, although it has not yet been formally conceptualized by the school. This pattern consistently follows three implicit phases: (1) cognitive stimulation through analytical questioning or contextual problems, (2) argumentative exploration in collaborative discussion, and (3) spiritual reflection grounded in Qur'anic values. In one science lesson on environmental sustainability, the teacher posed the question, “Why are humans commanded to protect nature?” The discussion evolved from scientific reasoning about environmental damage toward religious reflection on stewardship (*amanah*) as *khalifah*. This recurring pattern suggests the presence of an integrative structure that moves from empirical reasoning toward normative awareness.

From a cognitive perspective, students are encouraged to identify causal relationships, consider social consequences, and construct rational justifications. From a spiritual perspective, the process culminates in value internalization through *tadabbur* of relevant Qur'anic verses. However, this integration remains non-reciprocal; the instructional flow tends to be linear (analysis followed by value affirmation) rather than dialogic–cyclical, in which spiritual reflection also generates new critical questions. Consequently, although analytical reasoning and ethical awareness coexist, they have not yet been interconnected within a systematic framework of self-regulated ethical reasoning.

Document analysis indicates that higher-order thinking skills (HOTS) components and value reflection are present within instructional planning; however, they are not connected through performative indicators or integrative assessment instruments. No rubric was identified that simultaneously measures the quality of argumentation and the depth of spiritual reflection. This suggests that the emerging integrative model remains practice-

³⁶ Abdullah Nasih Ulwan, *Tarbiyat al-awlad fi al-Islam* (Dar al-Salam, 1992).

³⁷ Thomas Lickona, *Educating for Character: How Our Schools Can Teach Respect and Responsibility* (New York: Random House Publishing Group, 2009).

intuitive rather than a structured conceptual design. Theoretically, these findings indicate that Madrasah Ibtidaiyah is positioned within a transitional phase toward integrative pedagogy, where cognitive dialogue and spiritual reflection exist as practices but have not yet crystallized into a systemic model capable of producing measurable and sustainable critical thinking development.

Findings regarding the emergence of an integrative cognitive–spiritual model demonstrate that pedagogical practices in Madrasah Ibtidaiyah have begun to move beyond the dichotomy between cognitive learning and spiritual formation. The three implicit phases—cognitive stimulation, argumentative exploration, and spiritual reflection—structurally align with Piaget’s cognitive development theory, particularly the concept of cognitive disequilibrium that triggers schema restructuring.³⁸ At the same time, group-based argumentative discussion reflects the mechanism of social mediation within the Zone of Proximal Development, where knowledge is constructed through interaction.³⁹ However, unlike secular constructivism, the spiritual reflection phase grounded in Qur’anic values introduces a normative orientation that directs thinking processes toward ethical–transcendental awareness.

From a critical thinking perspective, the stimulation and exploration phases activate interpretative and inferential dimensions as conceptualized by Facione.⁴⁰ Nevertheless, reflective evaluation and self-regulation have not yet been systematically developed.⁴¹ The identified model continues to operate linearly (analysis → value affirmation) rather than forming a dialogic–cyclical pattern in which spiritual reflection generates new problematization. International scholarship indicates that Islamic education frequently faces challenges in transforming value transmission into reflective inquiry.⁴² These findings reveal the potential for such transformation, although it has not yet been institutionalized within measurable pedagogical design.

From the perspective of classical Islamic epistemology, the integration of empirical reasoning and normative awareness has deep roots in the Islamic intellectual tradition. Al-Ghazali emphasizes the importance of uniting reason (*‘aql*) and the heart (*qalb*) in the pursuit of knowledge so that learning does not end in formal rationality but culminates in moral–spiritual consciousness.⁴³ Ibn Khaldun, in the *Muqaddimah*, highlights the significance of gradual progression (*tadarruj*) in learning to ensure the systematic development of intellectual capacity.⁴⁴ Likewise, Al-Zarnuji stresses that the blessing of knowledge lies in the integration of rational understanding and *adab*.³ Thus, the integrative pattern identified in this madrasah resonates historically with the paradigm of classical Islamic education, even though it has not yet been formulated as an operational contemporary model.

Furthermore, Al-Attas’ concept of education as the cultivation of *adab* (*ta’dib*) provides a normative framework in which the ultimate aim of learning is the formation of a civilized individual capable of placing things in their proper order.⁴⁵ Within this perspective,

³⁸ Piaget, *The psychology of the child*.

³⁹ L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*.

⁴⁰ Facione, “Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction.”

⁴¹ Ennis, “Critical thinking: A streamlined conception.”

⁴² J Mark Halstead, “An Islamic concept of education,” *Comparative Education* 40, no. 4 (2004): 517–29.

⁴³ Al-Ghazali, *Ihya’ ‘ulum al-din* (Dar al-Kutub al-‘Ilmiyyah, 1998).

⁴⁴ Ibn Khaldun dan Franz Rosenthal, *The Muqaddimah: An introduction to history* (Princeton University Press, 1967).

⁴⁵ Al-Attas, *The concept of education in Islam: A framework for an Islamic philosophy of education*.

critical thinking cannot be reduced to analytical ability alone but must be understood as ethical discernment rooted in the hierarchy of knowledge and divine consciousness. This argument aligns with contemporary Islamic education scholars who emphasize the need to reconstruct critical thinking within the horizon of Islamic epistemology.⁴⁶ Consequently, the emerging integrative model may be understood as an embryonic synthesis between developmental constructivism and the epistemology of *adab*.

Document analysis further indicates the absence of integrative assessment instruments capable of measuring both the quality of argumentation and the depth of spiritual reflection. Contemporary scholarship in character education and Islamic education emphasizes the importance of authentic assessment in capturing the development of moral reasoning and spiritual consciousness.⁴⁷ The lack of integrative rubrics suggests that the model remains at a practice-intuitive stage rather than a systemic instructional design. Theoretically, this condition reflects a transitional phase from moral-transmissive pedagogy toward reflective-integrative pedagogy.

Accordingly, the conceptual contribution of this study lies in the preliminary formulation of an integrative cognitive–spiritual framework that positions critical thinking as a process integrating empirical reasoning, normative reflection, and ethical self-regulation. Within this paradigm, critical thinking is not interpreted as value-neutral skepticism but as reflective reasoning operating within epistemic boundaries oriented toward divine truth. These findings enrich the global discourse on Islamic education by demonstrating that cognitive–spiritual integration is not merely a normative theological agenda but can be modeled as a pedagogical structure encompassing developmental, social, and epistemological dimensions simultaneously.

Implementation of the Integrative Cognitive–Spiritual Model to Enhance Critical Thinking among Madrasah Ibtidaiyah Students

Field findings indicate that the implementation of the integrative cognitive–spiritual model at SD Islam Cendekia Pasuruan is enacted through instructional design that explicitly combines analytical stimulation and value reflection within a structured pedagogical cycle. Based on classroom observations across several Islamic Religious Education lessons, teachers consistently initiate learning through open-ended, context-based problem prompts. In a lesson on environmental pollution, for instance, students were asked to analyze the impact of plastic waste accumulation on food chains and to predict long-term consequences for human life. Follow-up questions posed by the teacher were elaborative in nature, such as: “What evidence supports your claim?” and “Are there other possible consequences we have not yet considered?” This pattern demonstrates a systematic effort to develop inferential reasoning, argumentative elaboration, and evidence evaluation.

Following the analytical phase, teachers facilitated a transition toward spiritual reflection by connecting discussion outcomes to the concepts of *kebalifab fil ardh* and ecological stewardship in Islam. This transition was not abrupt but mediated through guiding questions such as: “If humans are entrusted to protect the earth, how should we evaluate the act of littering?” In this way, religious reflection was constructed upon the empirical argumentation previously developed. Observational data indicate that students began to employ more complex argumentative structures, combining scientific reasoning (pollution damages ecosystems) with normative reasoning (such behavior violates the responsibility of stewardship). This pattern suggests the emergence of integrated reasoning, defined as the

⁴⁶ Sahin, *New directions in Islamic education: Pedagogy and identity formation*.

⁴⁷ Lickona, *Educating for Character: How Our Schools Can teach Respect and Responsibility*.

capacity to connect factual, social, and moral dimensions within a unified cognitive framework.

Further analysis of group discussion interactions reveals an improvement in the quality of critical dialogue. Students no longer provide single answers but compare alternative solutions, question peers' assumptions, and revise their viewpoints after encountering counterarguments. In one discussion session, a student proposed recycling plastic as the most effective solution, while another questioned its effectiveness without broader collective awareness. This exchange demonstrates the ability to consider social variables in decision-making processes. When discussions were directed toward spiritual reflection, several students were able to synthesize perspectives, for example by stating that "protecting the environment is not only a school rule but also an act of worship." Such synthesis indicates movement toward multi-layered reasoning, in which empirical, social, and transcendental dimensions operate simultaneously.

Nevertheless, the findings also reveal variation in implementation quality across instructional sessions. In some meetings, spiritual reflection appeared as a declarative normative closure ("we must protect the environment because it is Allah's command") without further exploration of ethical tensions or practical dilemmas. In these situations, integration becomes linear and reductive, limiting the development of critical dialogue. Document analysis of lesson plans and assessment instruments further indicates that critical thinking indicators have not been explicitly articulated in evaluation rubrics. Assessment practices remain dominated by conventional cognitive measures, such as factual accuracy and completeness of responses, while argumentation quality, evidence evaluation, and depth of spiritual reflection lack standardized performative indicators. Consequently, improvements in students' critical thinking are primarily observable qualitatively through discussion dynamics but remain insufficiently documented in quantitative or longitudinal terms.

Overall, the implementation of the integrative cognitive–spiritual model demonstrates positive impacts on the quality of discussion participation, the complexity of argumentation, and students' ability to connect rational analysis with ethical awareness. Nevertheless, the sustainability and scalability of the model depend on three key factors: (1) teachers' pedagogical consistency in facilitating analytical–reflective dialogue, (2) the development of integrative assessment instruments capable of simultaneously measuring argumentation and reflection, and (3) the institutionalization of the model within curriculum documentation and professional teacher training. Without these components, implementation risks remaining at the level of individual practice rather than evolving into a systemic model that is replicable and measurable within the Madrasah Ibtidaiyah context.

The findings indicate that the implementation of the integrative cognitive–spiritual model at SD Islam Cendekia Pasuruan represents a pedagogical form that combines empirical knowledge construction with the internalization of normative values within a single learning cycle. Theoretically, the phases of contextual problem stimulation and argumentative discussion align with constructivist learning theory, which positions cognitive conflict as a trigger for restructuring understanding⁴⁸ and social interaction as a medium for reasoning development.⁴⁹ However, what distinguishes this model from mainstream constructivism is the presence of spiritual reflection grounded in Qur'anic values as an additional epistemic phase. Consequently, students' thinking processes do not end with empirical validity but extend toward ethical–transcendental justification.

⁴⁸ Piaget, *The psychology of the child*.

⁴⁹ L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*.

From a critical thinking theory perspective, the observed practices have activated several core dimensions, including interpretation, analysis, and inference.⁵⁰ Indicators such as the use of causal reasoning, comparison of arguments, and revision of viewpoints reflect the development of basic evaluative capacities. However, the dimensions of self-regulation and metacognitive reflection remain insufficiently structured. Spiritual reflection tends to function as normative confirmation rather than as a space for testing assumptions or critically exploring ethical dilemmas. This suggests that the integration taking place is additive (analysis plus value) rather than transformative, in which spiritual values become a generative source of new critical inquiry.

From the perspective of Islamic educational epistemology, these findings carry significant resonance. The classical Islamic intellectual tradition does not separate rationality from spirituality. Al-Ghazali emphasizes the integration of *'aql* (reason) and *qalb* (heart) so that knowledge produces moral awareness,⁵¹ while Ibn Khaldun underscores that learning must occur gradually and reflectively.⁵² Al-Attas' concept of *ta'dib* further positions education as the cultivation of ethical consciousness integrated within the structure of knowledge.⁵³ In this context, the implementation of the integrative model in the madrasah represents a practical attempt to realize this paradigm within classroom pedagogy. Nevertheless, without explicit assessment frameworks and performative indicators, such integration risks remaining at the normative–implicit level.

Findings concerning variation in implementation quality across instructional sessions indicate that the effectiveness of the integrative model is highly dependent on teachers' pedagogical capacity. Contemporary scholarship on Islamic education suggests that the transformation toward integrative pedagogy requires strengthening teachers' reflective competence as well as developing systemic curriculum design.⁵⁴ When spiritual reflection appears merely as a declarative closure, integration loses its dialogic depth. Conversely, when teachers facilitate mediative questioning that connects scientific facts with moral responsibility, students' cognitive horizons expand from empirical reasoning toward ethical reasoning. Thus, the quality of integration is largely determined by teachers' ability to manage epistemic transitions between factual and normative domains.

The absence of integrative assessment instruments emerges as a critical finding with both theoretical and practical implications. Within modern educational evaluation frameworks, the measurement of critical thinking competencies requires performative indicators such as argument quality, logical coherence, use of evidence, and metacognitive reflection.⁵⁵ At the same time, Islamic education demands an additional dimension encompassing depth of value consciousness and ethical consistency. Without rubrics that integrate these dimensions, students' developmental progress cannot be systematically documented in longitudinal or comparative terms. Therefore, this study underscores the necessity of developing an integrative assessment framework capable of simultaneously measuring argumentation quality and spiritual reflection depth.

Conceptually, this study contributes to enriching the global discourse on critical thinking within the context of Islamic education. Whereas Western literature often

⁵⁰ Facione, "Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction."

⁵¹ Al-Ghazali, *Ihya' 'ulum al-din (Vols. 1–4)* (Dar al-Kutub al-'Ilmiyyah, 1998).

⁵² Khaldun dan Rosenthal, *The Muqaddimah: An introduction to history*.

⁵³ Al-Attas, *The concept of education in Islam: A framework for an Islamic philosophy of education*.

⁵⁴ Abdullah Sahin, "Critical issues in Islamic education studies," *British Journal of Religious Education* 40, no. 3 (2018): 265–75, <https://doi.org/10.1080/01416200.2018.1493271>.

⁵⁵ Ennis, "Critical thinking: A streamlined conception."

conceptualizes critical thinking as a process of rational skepticism and independent evidence evaluation, the present findings suggest the possibility of an alternative framework: ethical–epistemic integration. Within this model, critical thinking is not understood as value-neutral cognition but as a reflective process operating within consciously recognized normative horizons. This contribution is significant because it offers a theoretical framework that bridges modern constructivist paradigms with Islamic epistemology, while simultaneously opening space for the formulation of more systemic and measurable integrative pedagogical models in Madrasah Ibtidaiyah.

D. Conclusion

This study demonstrates that the development of critical thinking within the Madrasah Ibtidaiyah context possesses distinctive characteristics that extend beyond cognitive–analytical dimensions to include ethical–spiritual awareness. These characteristics are reflected in instructional patterns that integrate contextual problem stimulation, collaborative argumentative exploration, and value reflection grounded in Islamic teachings. Consequently, critical thinking in the madrasah context is not positioned as value-neutral skepticism but as reflective reasoning that progresses from empirical analysis toward normative meaning internalization. These findings indicate that Madrasah Ibtidaiyah environments provide an epistemic space that enables the simultaneous integration of higher-order thinking skills and moral consciousness formation.

Furthermore, this study formulates and empirically examines an integrative cognitive–spiritual model as a pedagogical framework for developing and enhancing students' critical thinking abilities. The model operates through a cyclical process of rational analysis, argumentative dialogue, and spiritual reflection that function as interconnected phases within a single learning sequence. Its implementation enriches students' argumentative quality and fosters the emergence of multi-layered reasoning that integrates factual, social, and transcendental considerations. Nevertheless, the sustainability and scalability of the model require further strengthening in three key areas: integrative assessment development, operational standardization, and teacher capacity building. Without these components, cognitive–spiritual integration risks remaining an intuitive pedagogical practice rather than evolving into a systemic, measurable, and replicable model within Islamic primary education.

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