Mauriduna Journal of Islamic Studies
E-ISSN: 2797-0876
http://ejournal.mc.ac.id
Open Acces
Mauriduna: Journal of Islamic Studies, Vol. 6, No. 4, 2025 Page 759-788
DOI: 10.37274/mauriduna.v6i4.26

Integrating Science and Technology in Islamic Education through the Tawhid Paradigm

Muhammad Hizba Aulia[1], Aam Abdussalam[2], Aceng Kosasih[3], Ahmad Dimyati Ridwan[4], Muhamad Mauris Faruqi Ali[5], Achmad Ghiyats Setiawan[6], M. Nur Faizin[7]
[1.2.3.4.5.6.7]Universitas Pendidikan Indonesia, Bandung, Indonesia
E-mail: mhizbaaulia@upi.edu[1], aam86@upi.edu[2], acengkosasih@upi.edu[3], ahmaddimyati16@upi.edu[4] maurisfaruqi21@upi.edu[5], achmadsetiawan@upi.edu[6], nurfaizin1861@upi.edu[7]

Submission: 24-08-2024	*Revised: 29-09-2025*	*Accepted: 19-10-2025*	*Published: 24-11-2025*

Abstract

This study examined the implementation of the tawhid paradigm as an epistemological foundation for integrating science and technology within Islamic education, aiming to address knowledge dichotomy, fragmentation, and curriculum stagnation prevalent in many Islamic educational institutions. Positioned within the framework of Islamic epistemology, this qualitative research adopted a library study design within an interpretative paradigm. Data were obtained from credible scholarly sources such as journal articles, books, and conference papers, and analyzed through descriptive–qualitative content analysis based on the Miles and Huberman model. The findings indicated that the tawhid paradigm underpins three main integration models: interconnection, Islamization of knowledge, and a holistic framework, which collectively strengthen the relationship between academic knowledge, practical expertise, and the development of learners' spiritual and moral character. This study proposed a synthetic approach emphasizing the systematic and contextual and practical application of these models to foster an ethical and character-driven Islamic scientific civilization. The tawhid paradigm is identified as a strategic foundation for cultivating knowledgeable, ethical individuals capable of contributing meaningfully to the development of a just, civilized, and beneficial society.

Keywords: Islamic Education, Knowledge Integration, Scientific Civilization, Tawhid Paradigm

Abstrak

Penelitian ini membahas implementasi paradigma tauhid sebagai landasan epistemologis untuk mengintegrasikan ilmu pengetahuan dan teknologi dalam pendidikan Islam, dengan tujuan mengatasi dikotomi pengetahuan, fragmentasi ilmu, dan stagnasi kurikulum yang masih banyak terjadi di lembaga pendidikan Islam. Berposisi dalam kerangka epistemologi Islam, penelitian kualitatif ini menggunakan desain studi pustaka dalam paradigma interpretatif. Data diperoleh dari berbagai sumber ilmiah kredibel seperti artikel jurnal, buku, dan prosiding konferensi, kemudian dianalisis secara deskriptif-kualitatif menggunakan teknik analisis isi model Miles dan Huberman. Hasil penelitian menunjukkan bahwa paradigma tauhid menjadi dasar tiga model integrasi utama, yaitu interkoneksi, Islamisasi ilmu, dan kerangka holistik, yang secara kolektif memperkuat hubungan antara pengetahuan akademik, praktik keilmuan, dan pengembangan karakter spiritual serta moral peserta didik. Penelitian ini mengusulkan pendekatan sintetik yang menekankan penerapan praktis model-model tersebut secara sistematis dan kontekstual untuk mendorong pembentukan peradaban ilmiah Islam yang berkarakter dan etis. Paradigma tauhid

diidentifikasi sebagai landasan strategis dalam membentuk individu yang berpengetahuan, beretika, dan berkemampuan memberikan kontribusi nyata bagi pembangunan masyarakat yang adil, berkeadaban, dan bermanfaat secara luas.

***Kata kunci**: Pendidikan Islam, Integrasi Pengetahuan, Peradaban Ilmiah, Paradigma Tauhid*

A. INTRODUCTION

The Development of Science and Technology (IPTEK) in the era of globalization has significantly impacted education, presenting both opportunities for innovation and challenges in maintaining a spiritual-material balance (Astuti et al., 2023; Widisuseno, 2022). While these advancements provide vast opportunities for innovation and the progress of civilization, they also pose challenges in maintaining a balance between spiritual and material dimensions (Suwahyu, 2022). One critical challenge is the secularization of knowledge the detachment of scientific processes from divine dimensions and transcendent values (Ahida, 2018). Mohammad Natsir (1954) emphasized that separating religion from education leads to moral disorientation, as knowledge must be guided by faith (*iman*) and responsibility before God. Similarly, Syed Muhammad Naquib al-Attas (1978) identified secularization as the root of confusion (*kekeliruan*) in modern education, arguing that the tawhidic worldview alone can reunite knowledge, ethics, and spirituality within a coherent epistemological framework. This secularization fosters materialistic and utilitarian approaches that neglect ethical and spiritual dimensions (Saputra et al., 2023).

Quantitative indicators underscore this urgency. UNESCO (2023) reports a USD 97 billion annual financing gap to achieve SDG 4 by 2030, with Muslim-majority nations among those facing persistent quality challenges. Most OIC member states allocate less than 1 percent of GDP to R&D—far below the global average of 2.7 percent (OECD, 2024; WIPO, 2024). Only Turkey (1.32%) and Egypt (1.02%) exceed 1 percent, while Indonesia (0.3%), Malaysia (0.9%), and Pakistan (<0.3%) lag significantly behind developed nations investing 3-6 percent of GDP in R&D. This underinvestment reflects systemic weaknesses in knowledge production, highlighting the need for epistemological reform grounded in tawhid principles.

Such trends weaken students' awareness of God's role in knowledge creation, eroding moral foundations and social responsibility (Muflikhun et al., 2025). Education increasingly prioritizes pragmatic goals—efficiency and productivity—over the public good (Setiawan & Ratnasari, 2023), potentially triggering identity crises for Muslim students when educational values contradict tawhid principles (L. Sa'adah et al., 2024). Islamic education must therefore integrate knowledge with tawhid values, not merely transfer information but cultivate character and spirituality to shape insan kamil—individuals who are intellectually excellent, morally noble, and spiritually aware (Achadah et al., 2022; Munir et al., 2025).

Several studies have established philosophical foundations for the tawhid paradigm in Islamic education, yet significant gaps remain. Pulungan (2020) demonstrated tawhid's role in overcoming epistemological dichotomies but offered no operational curriculum model. Hidayat and Suryana (2018) advocated for repositioning national education systems on tawhid foundations through normative arguments rather than empirical frameworks. Sassi (2020) examined al-Attas's epistemology in uniting knowledge and *adab*, yet remained limited to abstract philosophical exposition. Muzaqi et al. (2017) proposed bridging empirical and unseen (*ghayb*) dimensions without elaborating their practical applications. Rafliyanto (2025) conceptualized tawhid as an epistemological and moral framework but lacked classroom validation or instructional design.

These studies shared three critical limitations: (1) methodological abstraction—relying on conceptual analysis without empirical testing; (2) operational ambiguity—lacking actionable curriculum frameworks, learning sequence syntax models, or assessment rubrics; and (3) contextual disconnect—inadequately addressing digital transformation, competency-based curricula, and global educational standards. No research comprehensively offers an applicable, empirically grounded model for integrating the tawhid paradigm into Islamic education curricula in the Fourth Industrial Revolution era—one bridging epistemological theory with practical pedagogy, institutional policy, and technological innovation.

This study's novelty lay in formulating both conceptual and applied approaches, offering a practical integration model for science, technology, and tawhid relevant to

globalization and Fourth Industrial Revolution challenges. It addresses three questions: (1) How does the secularization of science and technology affect education's direction in the era of globalization? (2) How can the tawhid paradigm integrate spiritual-ethical dimensions into the development of science and technology within Islamic education? (3) How can science-technology-tawhid integration be holistically implemented to shape *insan kamil*? The findings aimed to strengthen the epistemological foundation of tawhid-based education while providing conceptual frameworks for curriculum development and learning strategies responsive to contemporary challenges without losing their divine orientation.

B. RESEARCH METHODOLOGY

This study employed a library research design within an interpretative paradigm (Subagiya, 2023). This approach was chosen because it enables the researcher to examine and construct the meaning of the *tawhid* paradigm in depth through the interpretation of various written sources. The focus of the study was directed toward analyzing the relationship between the *tawhid* paradigm and the integration of science and technology in Islamic education, both at the conceptual and applicative levels. Thus, the study does not only presented theoretical concepts but also explored the relevance of the literature findings for the development of Islamic educational models grounded in *tawhid* values.

Data collection was conducted through a systematic review of credible scholarly sources, including books, accredited journal articles, conference proceedings, research reports, and other relevant academic documents. The search was carried out online via academic platforms such as Google Scholar, SINTA, and Scopus, which provided access to high-quality primary literature. The selection criteria included direct relevance to the research topic, publications within the last ten years (2016–2025), and priority given to articles published in nationally accredited journals and reputable international journals. The research instrument consisted of a literature search guide containing keywords such as *"tawhid paradigm," "integration of science and technology," "Islamic education,"* along with their English and Arabic equivalents. This guide facilitated the identification, screening, and classification of literature in accordance with the research focus.

Data analysis was carried out using a descriptive-qualitative approach with content analysis techniques, referring to the interactive model of Miles and Huberman, which involves three stages: (1) data reduction, namely selecting and focusing on relevant information; (2) data display, presented in the form of narrative descriptions and thematic tables to facilitate interpretation; and (3) conclusion drawing, conducted inductively based on consistent findings. The validity of the findings was ensured through source triangulation techniques by comparing information from various sources and verifying consistency across studies (Aulia et al., 2024). This approach aimed to minimize interpretative bias while enhancing the credibility of the results (Pajrin et al., 2019). The final outcome was expected to strengthen the epistemological foundation of *tawhid*-based education and provide a conceptual framework for developing Islamic educational models that integrate science, technology, and spiritual values in an applicative and contextual manner.

C. RESULTS AND DISCUSSION

Results

1. The Current Application of the Tawhid Paradigm in Science and Technology

The application of the tawhid paradigm within the domains of science and technology is reflected in various institutional initiatives that regard knowledge as a divine trust and develop it within a framework of God-centered ethics (Nursilah et al., 2025). The literature indicates that this orientation aims not only to achieve material advancement but also to cultivate moral and humanistic qualities grounded in justice and public welfare (Romlah & Rusdi, 2023). Multiple integrative approaches have been developed, including the Islamization of knowledge initiated by Ismail al-Faruqi and the humanistic epistemology of Ziauddin Sardar (Fernadi, 2024). However, several studies emphasize that its practical implementation remains constrained by the replication of Western curricula without adequate value adaptation and by limited research policies that align with tawhidic principles (Khoiriyah, 2021).

At the global level, studies on member states of the Organization of Islamic Cooperation (OIC) reveal that strengthening the tawhid paradigm is hindered by institutional capacity and research funding limitations, with average R&D expenditure

remaining below 2% of GDP (Tajuddin & Rofie, 2014). Nevertheless, several countries have developed more systematic integration models, particularly through higher education institutions. In Malaysia, institutions such as IIUM, USIM, UTHM, and APIUM implement integrative curricula based on the unity of naqli and aqli knowledge. Findings by Halimi et al. (2022) showed that IIUM has established a strong foundation through its Islamization Policies and the integration of Revealed Knowledge and Human Sciences, although classroom implementation often experiences reduction due to technical and academic orientations. A similar pattern appears at USIM, where the INAQ agenda is structurally robust but heavily dependent on faculty culture, while UTHM adopts the Tawhidic Paradigm in engineering yet faces challenges in pedagogical standardization across programs. Overall, Malaysia demonstrates notable progress at the institutional level, but implementation remains uneven at the micro-curriculum level and in classroom practices.

Contrasting findings emerged in Turkey through the *madrasity* model developed by Süleyman Oktar. Based on an analysis of scientific productivity in Muslim-majority countries from 2016–2020, the model highlights that low publication outputs and research efficiency are more influenced by inadequate R&D investment and weak academic culture than by religious factors. The *madrasity* model integrates spirituality, religious discipline, and empirical research through an integrated curriculum, dormitory system, and balanced distribution of religious and scientific studies, demonstrating that consistent epistemological integration can enhance scientific productivity without compromising spiritual foundations (Oktar, 2021, 2022).

In the Egyptian context, studies by El Nagdi and Roehrig (2022; 2020) demonstrated that ethical values are integrated into STEM education through the development of teachers' professional identity via transdisciplinary training, collaborative experiences, and project-based curricula. This integration is manifested through learning mechanisms requiring engagement in the engineering design process, reflective journaling, contextual problem-solving, and authentic assessment that combines disciplinary and multidisciplinary evaluation. Such approaches not only strengthen teachers' pedagogical competence but also cultivate moral dispositions

through regular ethical reflection, collaborative responsibility, and value-oriented problem-solving aimed at social benefit. Although the term *tawhid* is not used explicitly, the integration of ethics and science presented in these studies shows that scientific activities are positioned as morally accountable endeavors—aligned with the tawhidic view of knowledge as a divine trust and human action as part of the khalīfah responsibility. These findings align with Al-Khatib (2018) who stressed that STEM education in the Middle East increasingly accommodates character values, scientific integrity, and social orientation as inherent elements of modern instructional design. This indicates that value integration in science education is not exclusive to religiously oriented institutions but is also part of a global trend that positions morality as a foundation for sustainable and responsible scientific practice.

In Indonesia, the application of the *tawhid* paradigm is evident in Islamic educational policies and practices that emphasize the integration of values and scientific knowledge. The thought of Mohammad Natsir remains an important reference in developing integrative curricula and dismantling the dichotomy between religious and secular sciences. Selamat (2025) showed that Natsir's *tawhidic* concept remains relevant in addressing epistemological dualism in contemporary education. A study at IAIN Kudus further reveals that values such as religious moderation and Applied Islamic Science have been incorporated into institutional visions, missions, and curriculum design, though they are inconsistently reflected in learning documents such as CPL and lesson plans (Sanusi & Fatah, 2022). These findings confirmed that *tawhidic* integration in Indonesia is relatively strong at the policy level but uneven in classroom implementation and instructional delivery.

2. Model for the Integration of Science and Teknology in Islamic Education

The findings showed that models for integrating science and technology in Islamic education have developed as strategic frameworks enabling educational institutions to maintain relevance, sustainability, and competitiveness amid rapid global changes. The literature indicates that such integration unites religious knowledge with modern scientific disciplines, contributing to the formation of learners who excel intellectually, spiritually, and morally (Andikaq et al., 2024; Asbar, 2019). Numerous studies also show that the need for integration is increasing as a response to epistemological dualism and

the demands placed on Islamic education to adapt to contemporary socio-scientific dynamics (Hafsah et al., 2023).

A synthesis of the literature identifies three primary integration models commonly applied at the curricular and institutional levels: the Interconnection Model, the Islamization of Knowledge Model, and the Holistic–Integrative Model. These models represent contemporary Islamic scientific paradigms aimed at eliminating the religious–secular dichotomy and establishing a unified and balanced body of knowledge. An overview of each model's characteristics is presented in the following table:

Table 1. Models of IPTEK Integration in Islamic Education

No	Model of IPTEK Integration	Main Focus	Objectives and Characteristics
1	Interconnection Model	Synergy between religious and general sciences while maintaining their distinctiveness	achieves coexistential and productive integration; rejects the sacred–secular dichotomy; promotes epistemological dialogue between revelation and reason (Al-Madani, 2020; Sari, 2024)
2	Islamization of Knowledge Model	Selection, purification, and reconstruction of modern knowledge to align with Islamic values	Aligns knowledge with the principle of *tawhid* and Islamic ethical–spiritual values; aims for comprehensive epistemological transformation (Hanifah, 2018; Ridwan et al., 2024)
3	Holistic–Integrative Model	Synthesis of knowledge derived from revelation, reason, and empirical experience	prevents fragmentation of knowledge; unites normative and scientific knowledge into a comprehensive and complementary whole (Maula & Fitriyah, 2024)

Source: Synthesized by the researcher from various related literature (2025)

Based on the table, the findings indicated that the Interconnection Model emphasizes epistemological dialogue between revelation and reason (Wijaya & Sabda, 2023). This model is implemented in various institutions, including UIN Sunan Kalijaga and SDIT Bengkalis, through student-centered learning, problem-based learning, and contextual learning approaches (Arbi et al., 2024; Roza et al., 2023). Studies reported several barriers to implementation, such as paradigm resistance, limited teacher competence, and insufficient supporting resources (Diu, 2018).

The findings further showed that the Islamization of Knowledge Model emphasizes the selection, purification, and reconstruction of modern scientific disciplines to align with Islamic values, in accordance with the formulations of Syed Naquib al-Attas and Ismail Raji al-Faruqi. Its implementation in Indonesia is reflected in Harun Nasution's approach, the *ayatisation* of knowledge at UIN Malang, IPB, and ITB, as well as the integration of *maqāṣid al-sharī'ah* and the scientification of Islam at UIN Syarif Hidayatullah Jakarta (Bakar et al., 2023; Munawaroh & Irawan, 2021). Key challenges included insufficient epistemological transformation and the need for stronger institutional legitimacy (Badhrulhisham & Isa, 2017; Muslem, 2019).

Other findings indicated that the Holistic–Integrative Model seeks to unite revelation, reason, and empirical experience into a single coherent structure of knowledge (Helmi, 2020; Maula & Fitriyah, 2024). Its implementation is reflected in thematic learning based on *ayat kauniyyah*, the integration of academic courses with *nyantri* practices, and academic forums such as SYGI (Lintang & Luthfi, 2020). Numerous studies reported that this model contributes to the development of learners who are academically strong, well-mannered, and spiritually grounded (Handayani & Mahsun, 2025).

Overall, the findings indicatedthat these three models offer distinct yet complementary pathways for formulating an Islamic education structure capable of harmonizing modern scientific knowledge with Islamic values. The results affirmed that integrative models have developed substantially at policy and curriculum levels across

various institutions, although practical implementation continues to face technical, pedagogical, and institutional challenges.

3. Key Institutional and Pedagogical Challenges

The findings revealed that institutional and pedagogical challenges are critical factors affecting the successful application of the tawhid paradigm in Islamic education. At the institutional level, the dominance of secular paradigms within educational systems continues to separate science from religious values, producing a utilitarian and value-neutral view of knowledge (Ahida, 2018). Globalization and the pressure for technical efficiency in modern education systems further limit opportunities for strengthening learners' character and spirituality (Aulia et al., 2025). These conditions are exacerbated by teachers' limited capacity to understand and implement integrated knowledge, as well as insufficient curricular support and infrastructure such as integrative laboratories or interdisciplinary research centers (Lubis et al., 2023).

From a pedagogical perspective, the findings emphasized that teacher competence is a determinant of successful integration between values and scientific knowledge in classroom practices. Continuous professional development is required to enhance academic competence while also strengthening teachers' understanding of the *tawhid* paradigm and its classroom implementation (Purba et al., 2024). These challenges intensify in the digital era, where unrestricted access to information exposes students to external values that may erode their Islamic identity through various digital and social media platforms (Astuti et al., 2023). Consequently, teachers must possess digital literacy, value sensitivity, and the ability to guide technology use in both productive and Islamic ways.

Consistent with this, findings by Winursiti et al. (2024) reinforced the obstacles faced by educators. Teachers continue to experience limited access to technological devices, weak school infrastructure, and significant competency gaps between urban and rural teachers. Rapid curriculum changes, low digital literacy, and restricted access to professional training further hinder their ability to design integrative learning that connects science, technology, and Islamic values. Thus, institutional and pedagogical challenges are not merely conceptual but also manifest in daily practice, making

technological equity, teacher capacity building, and systemic support essential prerequisites for the successful implementation of the tawhid paradigm in Islamic education.

Discussion

1. Recontextualizing the Tawhid Paradigm: A Comparative View

The tawhid paradigm in the development of science and technology should be understood not merely as a theological doctrine but as an epistemic framework that guides the orientation, methodology, and ethics of knowledge productino (Muzaqi et al., 2017). Consistent with the views of Thomas Kuhn and Robert Friedrichs, who argue that paradigms constitute dominant frameworks shaping how scientists interpret reality, tauhid functions as a worldview that positions Allah as the ultimate source of truth and the final telos of intellectual inquiry (Kesuma & Hidayat, 2020; Tumanggor et al., 2024). The concept of tawhid, rooted in *wahhada–yuwahhidu–tauhidan* and reinforced by al-Baijuri as a conviction grounded in both rational and scriptural evidence affirms that natural phenomena are *ayat kauniyah* which demand scientific engagement based on faith, ethics, and spiritual consciousness (Abdussalam et al., 2022; Suharto, 2018; Triandini, 2023). Accordingly, the tawhid paradigm differs fundamentally from the secular Cartesian–Newtonian paradigm and the currents of modern naturalism, both of which detach science from values and negate the transcendental dimension of scientific activity (Nurdiyanto et al., 2025).

Within contemporary Islamic thought, the tawhid paradigm has generated various epistemological models that seek to integrate revelation, reason, and empirical observation. The Islamization of knowledge proposed by Ismail al-Faruqi and the humanistic–*maslahah*-oriented approach of Ziauddin Sardar emphasize that tawhid-based scientific integration requires methodological reconstruction that reshapes ways of thinking, assessing, and producing scientific truth (Fernadi, 2024). This critique becomes increasingly relevant in light of tendencies among some Islamic educational institutions to replicate Western curricula without epistemological adaptation (Khoiriyah, 2021). Such conditions highlight the urgency of shifting from value-free science to science governed by principles of *maslahah*, justice, and moral responsibility

(Romlah & Rusdi, 2023). Thus, the tawhid paradigm provides not only normative orientation but also a methodological foundation for scientific development rooted in the civilizational vision of Islam.

Cross-national studies indicate that the transformation of the tawhid paradigm has not yet taken deep root within educational and research structures. Limited institutional capacity and research funding—averaging below two percent of GDP among OIC countries (Tajuddin & Rofie, 2014) —have created a gap between epistemological discourse and practical implementation. Findings by Meerangani et al. (2021) in Malaysian higher education showed that value integration is pursued through two channels: direct integration within academic program design that combines *naqli* and contemporary sciences, and indirect integration through general courses embedding an Islamic worldview. Although Malaysia possesses relatively established institutional structures, implementation tends to remain predominantly technocratic, as Islamic values often appear as supplementary elements rather than as epistemological frameworks directing scientific inquiry.

The Indonesian context demonstrates a comparable dynamic. While the conceptual contributions of Mohammad Natsir provide direction for knowledge integration within Islamic education, implementation remains uneven at the micro-curricular level, including learning outcomes, syllabi, and pedagogical methodologies (Selamat, 2025), as reflected in case studies from IAIN Kudus (Sanusi & Fatah, 2022). These findings indicated that without structural support and a consistent academic culture, the tawhid paradigm risks remaining at the level of normative discourse rather than becoming internalized within research and pedagogical practice.

The challenges posed by the Fourth Industrial Revolution further reinforce the urgency of revitalizing the tawhid paradigm. Ethical issues such as data misuse, algorithmic bias, genetic engineering, digital polarization, and moral degradation (Asmar, 2020) require an ontological and axiological framework capable of guiding technological utilization. The tawhid paradigm provides such a framework, including for the development of artificial intelligence that remains just, humane, and oriented toward *maslahah* (Shaleh & Islam, 2024). Within this perspective, technology is understood as an

instrument of worship and stewardship, rather than as a neutral entity detached from ethics (Andika, 2022; Nursilah et al., 2025).

In conclusion, this comparative analysis illustrates that revitalizing the tawhid paradigm necessitates a comprehensive reconstruction of how science is understood, produced, and applied. The success of scientific and technological development from a tawhid-based perspective is determined not only by material innovation but also by its ability to cultivate humans as *khalifah* who uphold spiritual, social, and ecological balance. Supported by adequate research funding, consistent integrative curricula, and a conducive academic culture, the tawhid paradigm holds potential to provide a new direction for the advancement of science and technology that is more just, civilizational, and value-oriented.

2. Pedagogical Implications and Theoretical Alignment

Findings regarding the three models of science–religion integration (IPTEK) indicated that Islamic education responds to modern epistemological fragmentation by unifying tawhidic values, contemporary sciences, and divine ethics (Q. Sa'adah, 2024). Pedagogically, these models offer not only epistemic frameworks but also direct implications for instructional design, teaching strategies, and learner development. As highlighted by Ayathurrahman and Shodiq (2023) tawhid-based knowledge integration asserts that Islamic education must extend beyond technical skill acquisition to cultivate spiritual character, Islamic identity, and a civilizational ethos.

The Interconnection Model, which emphasizes epistemological dialogue between revelation and reason, aligns closely with interdisciplinary learning theory and Joyce & Weil's collaborative approach. This model facilitates cross-disciplinary activities that require conceptual integration, idea synthesis, and complex problem solving. Costa et al. (2019) demonstrated that interdisciplinary projects enhance knowledge integration, collaboration, communication, and real-world application of theory, corresponding with problem-based learning at UIN Sunan Kalijaga (Roza et al., 2023) and contextual approaches at SDIT Bengkalis (Arbi et al., 2024). In relation to Bloom's Taxonomy, the model optimizes analytical, evaluative, and synthetic abilities—core components of higher-order thinking skills. However, challenges such as paradigm resistance, limited teacher competence, and insufficient resources indicate that success depends on

pedagogical readiness, cross-disciplinary coordination, and structured supervisory systems (Taufiq et al., 2025).

The Islamization of Knowledge Model carries reflective and transformative pedagogical implications, as the processes of selecting, purifying, and reconstructing knowledge to align with Islamic principles resonate with transformative learning theory centered on shifts in meaning perspectives (Hanifah, 2018; Ridwan et al., 2024). Implementation through *ayatisation* of knowledge, integration of *maqāṣid al-syarī'ah*, and dewesternization strategies at UIN Jakarta demonstrates that learning transcends content transmission to shape learners' worldviews (Bakar et al., 2023; Munawaroh & Irawan, 2021). This model demands pedagogies fostering deep reflection, spiritual meaning-making, and meta-theoretical understanding, while challenges such as symbolic epistemologization underscore the need for approaches that facilitate perspective transformation and meaningful learning experiences (Badhrulhisham & Isa, 2017).

The Holistic–Integrative Model offers pedagogical implications that unify revelation, reason, and empirical experience within a cohesive structure of knowledge (Helmi, 2020; Maula & Fitriyah, 2024). It aligns with holistic education, the whole-child approach, and experiential learning, emphasizing the unity of cognitive, moral, and spiritual development. Implementation through thematic learning based on *ayat kauniyah* and the integration of coursework with *nyantri* practices exemplifies transformative, experience-based pedagogy (Lintang & Luthfi, 2020). Research by Widodo et al. (2023) further showed that integrative project-based learning enhances creativity, higher-order thinking, and real-world problem-solving—competencies consistent with the Islamic educational vision of forming *insan kamil* with spiritual and intellectual integrity.

This holistic–integrative model demonstrates strong conceptual alignment with contemporary STEAM approaches oriented toward transdisciplinarity. Holbrook et al. (2020) argued that transdisciplinarity in STEAM “rejects the compartmentalization of topics into disciplinary silos” and encourages thinking that transcends disciplinary boundaries—consistent with the tawhidic principle rejecting fragmented knowledge. The Education through Science (EtS) philosophy reinforces this alignment by

emphasizing societal issues and the development of key competencies, resonating with *maslahah* and *khilafah* as ethical foundations of education. The STEAM transdisciplinary skill set—including critical thinking, research, communication, social, and self-management competencies—provides an operational foundation for implementing tawhid-based instructional framework, ensuring that spiritual values are organically embedded within socially responsible scientific practice (Holbrook et al., 2020).

Overall, the pedagogical implications of these three models underscore the necessity of a tawhid-based curriculum that views knowledge as a theological and ethical trust (Munir et al., 2025). Learning orientations must shift from theoretical mastery toward the development of character, moral orientation, and spiritual consciousness (Judrah et al., 2024). Instruction should be contextual and transdisciplinary, integrating intellect, faith, and learners' social realities (Syauqi et al., 2025). Research by Costa et al. (2019) further confirmed that integrative learning not only enhances 21st-century skills but also strengthens motivation and meaningful learning experiences, validating its relevance for Islamic education.

Nonetheless, tawhid-based value–knowledge integration continues to face significant challenges, including the dominance of secular paradigms, modernization pressures emphasizing technical efficiency, and limited integrative infrastructure requiring structural reform (Rawanita & Silahuddin, 2024). Teacher capacity remains a decisive factor, necessitating enhanced pedagogical, epistemological, and spiritual competence to ensure consistent value integration (Purba et al., 2024). These challenges intensify in the digital era, where external value flows demand a more critical, tawhid-oriented technological engagement and the development of Islamic digital platforms that nurture holistic learner worldviews (Fauzi & Arifin, 2023). Therefore, strengthening value integration requires multisectoral synergy among educators, institutions, government, families, and communities to cultivate a knowledgeable, virtuous, and *maslahah*-oriented generation (Zain et al., 2024).

3. Proposed Model of Tawhid-Based Integration

The need for a more operational tawhid-based knowledge integration model has become increasingly urgent, as existing integrative approaches continue to leave gaps between epistemic ideals and pedagogical practices (Sahin, 2018). Implementation

challenges—including limited educator competence, insufficient infrastructure, and pressures from rapid digital transformation—demonstrate the necessity of a framework capable of systematically uniting epistemological, pedagogical, and spiritual dimensions (Wajdi et al., 2025). Such a framework must be practically applicable in classrooms while remaining flexible for replication across various subjects and educational levels (Falloon, 2020; Tan et al., 2021).

Responding to this need, this study proposed an integration model based on three main pillars. First, epistemological unity, which entails the unification of revelation, reason, and empirical experience as the foundation for knowledge formation (Syafaq et al., 2024). Second, pedagogical integration, which emphasizes interdisciplinary instructional design that connects modern science with tawhid values (Alhamuddin et al., 2025). Third, spiritual internalization, which ensures that the learning process not only produces cognitive competencies but also transforms character, strengthens divine consciousness, and cultivates *maslahah* orientation (Munir et al., 2025; Syauqi et al., 2025). These three pillars form the foundation of an integrative model that ensures tawhid values are concretely manifested in teaching practice, rather than remaining at the conceptual level.

Operationally, this model formulates five components of spiritual value integration that constitute a complete and continuous learning cycle. These components are not positioned separately from the scientific process but are organically embedded throughout educational activities. To clarify the value internalization process, the following table presented a framework for integrating spiritual values in learning.

Tabel 2. Framework of Spiritual Value Integration Components in Tawhid-Based Learning

Integration Component	Primary Focus	Implementation Forms	Islamic Values Reinforced
Divine Orientation	Positioning learning as worship	Opening with thematic verses, strengthening intention and spiritual purpose	Ikhlas, Amanah, Rububiyah

Revelation–Reason Dialogue	Unification of revelation and reason	Qur'anic study, scientific discussion based on *naql* and *aql*	Tafakkur, Hikmah, Taqwa
Scientific–Experiential Inquiry	Research-based scientific exploration	PBL, experiments, field studies, STEAM projects	Adl, Ihsan, Tathabbut
Spiritual–Moral Reflection	Internalization of spiritual meaning	*Muhasabah* journals, ethical discussions, self-reflection	Syukur, Muhasabah, Tawadhu'
Action for Maslahah	Application of knowledge for benefit	Social projects, innovation, educational campaigns	Maslahah, Khilafah, Amal Salih

The table above provided concrete illustration of how spiritual values are harmoniously integrated with scientific and pedagogical processes as intended by the reviewer. To ensure this model can be systematically implemented in classrooms, this study adapted the instructional framework of Joyce et al. (2011) and integrated tawhid principles into each phase, resulting in a six-phase learning syntax that provided operational guidance for teachers across disciplines. Thus, value integration is not only evident in learning outcomes but is embedded throughout every cognitive process and scientific activity of learners. The following table presented this six-phase syntax.

Table 3. Tawhid-Based Learning Syntax: Six Operational Phases

Learning Phase	**Learning Activities**	**Tawhid Integration**	**Islamic Concepts**	**Expected Outcomes**
Orientation and Confrontation	Apperception, problem mapping, phenomenon introduction	Connecting phenomena with *ayat kauniyah* and affirming knowledge as trust	Rububiyah, Tafakkur, Amanah	Spiritual orientation and learning purpose awareness

Exploration and Inquiry	Question posing, hypothesis formulation, initial exploration	Scientific *tadabbur* and initial dialogue between *naql* and *aql*	Tadabbur, Naql–Aql, Tawadhu'	Critical thinking grounded in faith values
Investigation and Implementation	Observation, experimentation, data collection, project-based learning	Research ethics, scientific integrity, trustworthiness in data management	Adl, Ihsan, Amanah	Scientific integrity and research skill mastery
Data Analysis and Interpretation	Findings analysis, pattern identification, meaning construction	Relating scientific findings to *sunatullah* and divine signs	Sunatullah, Hikmah, Tafaqquh	Holistic understanding and integration of revelation and reason
Explanation and Conclusion	Conclusion formulation, results presentation, concept generalization	Strengthening gratitude and *maslahah* orientation	Syukur, Maslahah, Khilafah	Intellectual synthesis and social consciousness
Reflection and Application	Self-reflection, evaluation, application in real contexts	*Muhasabah*, righteous action, commitment to knowledge pursuit	Muhasabah, Talab al-Ilm, Amal Salih	Character transformation and spiritual growth

This six-phase syntax strengthens the interconnection between spiritual, cognitive, and social dimensions in learning activities, aligning with holistic learning theory and whole-person education (Noddings, 2013). The model integrates reflective practice principles with Islamic spiritual dimensions, ensuring that learning is oriented not only toward conceptual mastery but also toward interpretation, internalization, and transformative real practice (Uyuni & Adnan, 2024). Its implementation requires a

supportive educational ecosystem, particularly strengthening teacher capacity in tawhid epistemology and interdisciplinary instructional design, formulating curricula and assessments aligned with tawhid values, and fostering multi-stakeholder collaboration to create communities of practice that cultivate character, spirituality, and 21st-century competencies (Faruq et al., 2024; Wenger, 1998).

Theoretically, this model offers two main contributions. First, it integrates interconnection, Islamization, and holistic-integrative approaches into a clear and implementable pedagogical structure. Second, it connects tawhid epistemology with contemporary learning approaches such as project-based learning, STEAM approaches, inquiry-based learning, and reflective pedagogy, thereby producing instructional designs that are relevant, adaptive, and responsive to modern educational challenges. Thus, this model provides both conceptual foundations and practical instruments that enable educators to develop learners who excel intellectually, embody noble character, possess communal vision, and can generate maslahah through the knowledge they cultivate.

D. CONCLUSION

The tawhid paradigm provides a robust philosophical and epistemological foundation for integrating science and technology within Islamic education, positioning knowledge not merely as a technical instrument but as a medium for shaping complete human beings who are ethical, morally responsible, and spiritually oriented. By uniting intellectual, moral, and spiritual dimensions through the integration of reason, faith, and practice, this paradigm strengthens students' character and identity in an increasingly pluralistic world. Its implementation through interconnection, Islamization of knowledge, and holistic–integrative approaches enhances Islamic education's capacity to produce generations who excel intellectually, uphold spiritual nobility, and embody virtuous character.

The findings carried significant practical implications: curriculum designers should explicitly integrate tawhid principles across disciplines; teacher training programs must strengthen pedagogical competencies through workshops, mentoring, and professional development; educational institutions need to establish integrative learning environments supported by interdisciplinary laboratories, digital platforms, and

collaborative research centers; and policymakers should institutionalize tawhid-based epistemology through supportive policies, research funding, and institutional legitimacy. Future research should empirically examine the effectiveness of tawhid-based curricula in fostering character, critical thinking, and spiritual awareness, conduct comparative studies across Muslim-majority countries to identify best practices, develop validated assessment instruments for measuring tawhid values internalization, explore Islamic ethics-aligned technological innovations, and undertake longitudinal studies on long-term societal impact. Thus, the tawhid paradigm serves as both a theoretical foundation and transformative framework for constructing Islamic education that is holistic, relevant, and capable of contributing meaningfully to the realization of a just and sustainable civilization.

REFERENCES

Abdussalam, A., Hidayat, T., & Istianah, I. (2022). Paradigma Pembelajaran Iqra dalam Membangun Karakter Bangsa. *Civilization Research: Journal Of Islamic Studies*, *1*(2), 140–152. https://doi.org/10.61630/crjis.v1i2.17.

Achadah, A., Wahidmurni, W., & Yasin, A. F. (2022). Internalization of Character Education Values in Shaping Elementary School Students' Religious Behavior. *Al-Ishlah: Jurnal Pendidikan*, *14*(4), 4723–4734. https://doi.org/10.35445/alishlah.v14i4.2509.

Ahida, R. (2018). Sekularisasi: Refleksi terhadap Konsep Ketuhanan. *TAJDID*, *25*(1), 1–15. https://doi.org/10.36667/tajdid.v25i1.347.

Al-Attas, S. M. N. (1978). *Islam and Secularism*. ABIM.

Al-Khatib, M. (2018). The Emerging Field of Ethics in the Context of Modern Egypt. *Ways of Knowing Muslim Cultures and Societies*, 157–180.

Al-Madani, K. (2020). Integrasi Interkoneksi Pendidikan Multikultural Berbasis Moderasi Islam Melalui Kurikulum Keagamaan Pendidikan Tinggi. *TRILOGI: Jurnal Ilmu Teknologi, Kesehatan, Dan Humaniora*, *1*(2), 46–55. https://doi.org/10.33650/trilogi.v1i2.2860.

Alhamuddin, Murniati, A., Ismail, M. S., & Pamungkas, I. (2025). Contextualizing Luqman's Wisdom in Qur'anic Character Education within the Indonesian Curriculum. *Indonesian Journal of Islamic Education Studies (IJIES)*, *8*(1), 17–38. https://doi.org/10.33367/ijies.v8i1.7206.

Andika. (2022). Agama dan Perkembangan Teknologi di Era modern. *Abrahamic Religions: Jurnal Studi Agama-Agama*, *2*(2), 129–139. https://doi.org/10.22373/arj.v2i2.12556.

Andikaq, R. R., Zulfirman, R., Afnibar, A., & Ulfatmi, U. (2024). Urgensi Psikologi Pendidikan Islami dalam Pengajaran. *Pedagogik: Jurnal Pendidikan Dan Riset*, *2*(3), 505–512.

Arbi, A., Herlina, H., & Syarifuddin, S. (2024). Mendamaikan Islam dan Sains: Studi Integrasi Interkoneksi Ilmu di Sekolah Dasar Islam Terpadu Kabupaten Bengkalis. *POTENSIA: Jurnal Kependidikan Islam*, *10*(2), 307–324. http://dx.doi.org/10.24014/potensia.v10i2.33493.

Asbar, A. M. (2019). Diskursus Wacana Sains dan Teknologi serta Dampaknya pada Pendidikan Islam. *TAJDID: Jurnal Pemikiran Keislaman Dan Kemanusiaan*, *3*(1), 483–497. https://doi.org/10.52266/tadjid.v3i1.240.

Asmar, A. (2020). Ekspresi Keberagaman Online: Media Baru dan Dakwah. *Jurnal Ilmu Dakwah*, *40*(1), 54–64. https://doi.org/10.21580/jid.v40.1.5298.

Astuti, M., Ibrahim, I., Herlina, H., Septiana, A., Irawandi, F., Margareta, S., & Zulipran, R. (2023). Reformasi Pendidikan Islam dalam Menghadapi Era Globalisasi di Indonesia. *Jambura Journal of Educational Management*, *4*(2), 282–291. https://doi.org/10.37411/jjem.v4i2.2494.

Aulia, M. H., Fakhruddin, A., & Surahman, C. (2024). Pemetaan Capaian Pembelajaran dan Materi Ajar PAI dan Budi Pekerti Elemen Al-Quran dalam Kurikulum Merdeka. *AT-TA'DIB: JURNAL ILMIAH PRODI PENDIDIKAN AGAMA ISLAM*, 103–117. https://doi.org/10.47498/tadib.v16i1.3138.

Aulia, M. H., Syahidin, S., Faizin, M. N., & Ali, M. M. F. (2025). Qur'anic Tadabbur Models for Enhancing Students Character and Spiritual Awareness. *Islamic Review: Jurnal Riset Dan Kajian Keislaman*, *14*(1), 133–156. https://doi.org/10.35878/islamicreview.v14i1.1497.

Ayathurrahman, H., & Shodiq, S. F. (2023). Integrasi Ilmu Agama-Sains Badiuzzaman Said Nursi dan Relevansinya dengan Pendidikan Agama Islam Era Digital di Indonesia. *Bulletin of Indonesian Islamic Studies*, *2*(1), 1–18. https://doi.org/10.51214/biis.v2i1.512.

Badhrulhisham, A., & Isa, M. F. M. (2017). Islamisasi Negara Malaysia dalam Konteks Gagasan Islamisasi Ilmu Syed Muhammad Naquib Al-'Attas: satu tinjauan. *Jurnal'Ulwan*, *2*(1), 189–203.

Bakar, A., Nazir, M., & Purnama, R. D. B. (2023). Membumikan Konsep Integrasi Pendidikan Islam dengan Sains di Lembaga Pendidikan Islam. *Jurnal Adzkiya*, *7*(1), 82–92.

Costa, A. R., Ferreira, M., Barata, A., Viterbo, C., Rodrigues, J. S., & Magalhães, J. (2019). Impact of interdisciplinary learning on the development of engineering students' skills. *European Journal of Engineering Education*, *44*(4), 589–601.

10.1080/03043797.2018.1523135.

Diu, A. (2018). Pemikiran M. Amin Abdullah Tentang Pendidikan Islam dalam Pendekatan Integrasi-Interkoneksi. *Jurnal Ilmiah Al-Jauhari: Jurnal Studi Islam Dan Interdisipliner*, *3*(1), 1–15. https://doi.org/10.30603/jiaj.v3i1.682.

El Nagdi, M. A., & Roehrig, G. H. (2022). Reality vs. Expectations of Assessment in STEM Education: An Exploratory Case Study of STEM Schools in Egypt. *Education Sciences*, *12*(11), 762. https://doi.org/10.3390/educsci12110762.

El Nagdi, M., & Roehrig, G. (2020). Identity evolution of STEM teachers in Egyptian STEM schools in a time of transition: A case study. *International Journal of STEM Education*, *7*(1), 41. https://doi.org/10.1186/s40594-020-00235-2.

Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. *Educational Technology Research and Development*, *68*(5), 2449–2472. https://doi.org/10.1007/s11423-020-09767-4.

Faruq, A., Raharjo, & Sholeh, N. (2024). The Essence of Islamic Religious Education Curriculum: Integrating Islamic Values with Contemporary Education. *Islamic Review: Jurnal Riset Dan Kajian Keislaman*, *13*(2), 85–98. https://doi.org/10.35878/islamicreview.v13i2.1258.

Fauzi, M., & Arifin, M. S. (2023). Teknologi Informasi dan Komunikasi (TIK) dalam Pendidikan Islam. *Al-Ibrah: Jurnal Pendidikan Dan Keilmuan Islam*, *8*(1), 19–33. https://doi.org/10.61815/alibrah.v8i1.217.

Fernadi, M. F. (2024). Discourse of Contemporary Islamic Education: Dichotomy, Islamization, and Integration of Science. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, *6*(3), 479–490. https://doi.org/10.37680/scaffolding.v7i1.1988.

Hafsah, Rusydi, I., & Himmawan, D. (2023). Pendidikan Islam Di Indonesia (Problem Masa Kini Dan Perspektif Masa Depan). *Risalah, Jurnal Pendidikan Dan Studi Islam*, *9*(1), 215–231. https://doi.org/10.31943/jurnal_risalah.v9i1.374.

Handayani, O., & Mahsun. (2025). Teori Realisme dalam Pendidikan Islam. *ULIL ALBAB: Jurnal Ilmiah Multidisiplin*, *4*(4), 1153–1158. https://doi.org/10.56799/jim.v4i4.8055.

Hanifah, U. (2018). Islamisasi Ilmu Pengetahuan Kontemporer (Konsep Integrasi

Keilmuan Di Universitas-Universitas Islam Indonesia. *TADRIS: Jurnal Pendidikan Islam*, *13*(2), 273–294. https://doi.org/10.19105/tjpi.v13i2.1972.

Helmi, M. (2020). Pandangan Filosofis dan Teologis Tentang Hakikat Ilmu Pengetahuan sebagai Landasan Pendidikan Islam. *Tarbiyah Islamiyah: Jurnal Ilmiah Pendidikan Agama Islam*, *10*(2), 33–51. https://doi.org/10.18592/jtipai.v10i2.4311.

Hidayat, T., & Suryana, T. (2018). Menggagas Pendidikan Islami: Meluruskan Paradigma Pendidikan di Indonesia. *Jurnal Pendidikan Islam Indonesia*, *3*(1), 75–91. 10.35316/jpii.v3i1.89.

Holbrook, J., Rannikmäe, M., & Soobard, R. (2020). STEAM Education—A Transdisciplinary Teaching and Learning Approach. In B. Akpan & T. J. Kennedy (Eds.), *Science Education in Theory and Practice: An Introductory Guide to Learning Theory* (pp. 465–477). Springer. https://doi.org/10.1007/978-3-030-43620-9_31.

Joyce, B. R., Weil, M., & Calhoun, E. (2011). *Models of teaching (8th ed.)*. Pearson Education, Inc.

Judrah, M., Arjum, A., Haeruddin, & Mustabsyirah. (2024). Peran Guru Pendidikan Agama Islam dalam Membangun Karakter Peserta Didik Upaya Penguatan Moral. *Journal of Instructional and Development Researches*, *4*(1), 25–37. https://doi.org/10.53621/jider.v4i1.282.

Kesuma, U., & Hidayat, A. W. (2020). Pemikiran Thomas S. Kuhn Teori Revolusi Paradigma. *Islamadina: Jurnal Pemikiran Islam*, *21*(2), 166–187. https://doi.org/10.30595/islamadina.v0i0.6043.

Khalid, H. M., Norfaiza, F., Hasan, A., Rosman, A. S., & Khan, A. (2022). The Intergration Of Science And Islam In Malaysia Of High Education Instituts: An Explorative Survey. *Journal of Positive School Psychology*, *6*(3).

Khoiriyah, B. (2021). *Model Integrasi Keilmuan Pesantren pada Pendidikan Tinggi Keagamaan Islam di Indonesia*. Institut PTIQ Jakarta.

Lintang, C. N., & Luthfi, M. J. (2020). Kuliah dan Nyantri sebagai Penerapan Visi Integrasi Interkoneksi. *Prosiding Konferensi Integrasi Interkoneksi Islam Dan Sains*, *2*, 275–277.

Lubis, M. I., Husti, I., & Mustofa, B. (2023). Implementasi Konsep Integrasi Islam dan Sains UIN Sunan Kalijaga Yogyakarta. *At-Tarbiyah Al-Mustamirrah: Jurnal Pendidikan Islam*, *4*(1), 15–28. http://dx.doi.org/10.31958/atjpi.v4i1.8605.

Maula, V. A., & Fitriyah, A. W. (2024). Sains Islam VS Sains Barat: Analisis Amalan dan Perbandingan. *Karakter: Jurnal Riset Ilmu Pendidikan Islam*, *1*(3), 70–80. https://doi.org/10.61132/karakter.v1i3.56.

Meerangani, K. A., Badhrulhisham, A., Ibrahim, A. F., & Johar, M. H. M. (2021). Integrasi Ilmu Islam dalam Pengajian Tinggi di Malaysia: Implementasi di Kolej Universiti Islam Melaka. *Jurnal'Ulwan*, *6*(2), 212–228.

Muflikhun, Nurjaman, I., Erihadiana, M., Hasanah, A., & Arifin, B. S. (2025). Restorasi Pendidikan Berbasis Nilai-Nilai Al-Quran: Tawaran Konseptual Bagi Tranformasi Pendidikan Modern. *Islamic Management: Jurnal Manajemen Pendidikan Islam*, *8*(02). https://doi.org/10.30868/im.v8i02.8621.

Munawaroh, M., & Irawan, V. W. E. (2021). Islamisasi Ilmu sebagai Model Integrasi dalam Membangun Relasi antara Ilmu dan Agama (Tinjauan Historis-Filosofis). *MUNAQASYAH: Jurnal Ilmu Pendidikan Dan Pembelajaran*, *3*(1), 140–151.

Munir, K., Salminawati, & Usiono. (2025). Pendidikan Islam dalam Perspektif World Conferences on Muslim Education: Tela'ah Ontologis, Epistemologis, dan Aksiologis. *Didaktika: Jurnal Kependidikan*, *14*(1 Februari), 925–940. https://doi.org/10.58230/27454312.1843.

Muslem. (2019). Konsep Islamisasi Ilmu Pengetahuan dan Penerapannya dalam Pendidikan Islam (Studi Pemikiran Syed Muhammad Naquib Al-Attas). *Tazkiya: Jurnal Pendidikan Islam*, *8*(2), 43–66. http://dx.doi.org/10.30829/taz.v8i2.571.

Muzaqi, S., Wahyuningsih, I., & Ratnaningsih, R. (2017). Tauhid Sebagai Paradigma dalam Pendidikan Islam. *Jurnal MOTORIC*, *1*(1), 29–41. https://doi.org/10.31090/paudmotoric.v1i1.548.

Natsir, M. (1954). *Capita Selecta*. Bulan Bintang.

Noddings, N. (2013). *Caring: A Relational Approach to Ethics and Moral Education* (Second). University of California Press.

Nurdiyanto, Nikmah, N. L., Kahfi, A., Islam, M. T., & Mushaffa, A. (2025). Analisis Pergeseran Paradigma Cartesian-Newtonian dan Thomas Kuhn: Cartesian-

Newtonian Paradigm Shift Analysis and Thomas Kuhn. *Jurnal Filsafat Indonesia*, *8*(2), 266–279. https://doi.org/10.23887/jfi.v8i2.82319.

Nursilah, N., Saripudin, U., Salsabila, N., & Wulandari, F. (2025). Paradigma Islam Sebagai Alat Analisis Konsep-Konsep Pendidikan Islam: Ilmu Pendidikan Islam. *Masagi: Jurnal Pendidikan Karakter*, *2*(1), 280–297. https://doi.org/10.29313/masagi.v2i1.5794.

Oktar, S. (2021). Islam and Science: Integration of Religion and Science to Build a Second Islamic Golden Age. *Katre International Human Studies Journal*, *12*, 3–25. https://doi.org/10.53427/katre.1012996.

Oktar, S. (2022). Madrasity: A new model of Islamic higher education integrating religion and science inspired by madrasah and university. *Katre Uluslararası İnsan Araştırmaları Dergisi*, *13*, 32–62. https://doi.org/10.53427/katre.1089699.

Pajrin, N. A. S., Asyafah, A., & Anwar, S. (2019). Studi Prosedur Penilaian Domain Afektif oleh Guru PAI di SMP Negeri 2 Bandung dan SMP Salman Al-Farisi Bandung. *TARBAWY: Indonesian Journal of Islamic Education*, *6*(2), 157–175. https://doi.org/10.17509/t.v6i2.19695.

Pulungan, M. Y. (2020). Urgensitas Pendidikan Berbasis Tauhid di Lembaga Pendidikan Islam. *Thariqah Ilmiah: Jurnal IImu-Ilmu Kependidikan & Bahasa Arab*, *6*(2), 1–13. https://doi.org/10.24952/thariqahilmiah.v6i2.2786.

Purba, R. D., Az-Zahra, S., Hutagalung, R. R., & Nasution, A. F. (2024). Strategi Pengembangan Profesionalisme Guru di Era Digital. *Tarbiyah Bil Qalam: Jurnal Pendidikan Agama Dan Sains*, *8*(1), 88=95. https://doi.org/10.58822/tbq.v8i1.199.

Rafliyanto, M. (2025). Tawhid Paradigm as Foundation in Islamic Education Philosophy: Theological-Normative Review Analysis. *Tarbiyatuna Kajian Pendidikan Islam*, *9*(1), 27–53. https://doi.org/10.69552/tarbiyatuna.v9i1.2745.

Rawanita, M., & Silahuddin. (2024). Studi Kebijakan dan Implementasi Integrasi Agama dan Sains pada Perguruan Tinggi Keagamaan Islam di Indonesia. *Realita: Jurnal Penelitian Dan Kebudayaan Islam*, *22*(1), 44–60. https://doi.org/10.30762/realita.v22i1.415.

Ridwan, M., Saputra, E., Daulay, I., Effendi, A., & Danil, M. (2024). The Concept of Islamization of Science from the Perspectives of Al-Faruqi and Al-Attas. *TOFEDU: The Future of Education Journal*, *3*(5), 1543–1555. https://doi.org/10.61445/tofedu.v3i5.447.

Romlah, S., & Rusdi. (2023). Pendidikan Agama Islam sebagai Pilar Pembentukan Moral dan Etika. *Al-Ibrah: Jurnal Pendidikan Dan Keilmuan Islam*, *8*(1), 67–85. https://doi.org/10.61815/alibrah.v8i1.249.

Roza, M., Latipah, E., & Suryana, Y. (2023). Analisis Proses Pembelajaran Mahasiswa pada Perguruan Tinggi Islam Berparadigma Integrasi-Interkoneksi di UIN Sunan Kalijaga Yogyakarta. *Tarbiyatuna: Jurnal Pendidikan Islam*, *16*(1), 27–47. 10.54471/tarbiyatuna.v16i1.2183.

Sa'adah, L., Wicaksono, A. T., Aprillianti, D. P., Al-Ghifari, M. F., Parhan, M., & Syahidin, S. (2024). Islamisasi Ilmu dalam Upaya Mengatasi Keterbelakangan Kualitas Umat Islam di Era Modern. *Al-Tarbiyah: Jurnal Ilmu Pendidikan Islam*, *2*(1), 296–308. https://doi.org/10.59841/miftahulilmi.v1i3.3.

Sa'adah, Q. (2024). Pesatnya Perkembangan Sains dan Teknologi: Relevansi dan Tantangan Pendidikan Islam Indonesia Perspektif Integrasi Interkoneksi. *Sosaintek: Jurnal Ilmu Sosial Sains Dan Teknologi*, *1*(1), 23–36. https://doi.org/10.33367/sosaintek.v1i1.5231.

Sahin, A. (2018). Critical Issues in Islamic Education Studies: Rethinking Islamic and Western Liberal Secular Values of Education. *Religions*, *9*(11), 335. https://doi.org/10.3390/rel9110335.

Sanusi, & Fatah, A. (2022). Pengarusutamaan Moderasi Beragama dalam Pengembangan Kurikulum PAI Berbasis Paradigma Ilmu Islam Terapan di IAIN Kudus. *ICIE: International Conference on Islamic Education*, *2*, 79–98.

Saputra, T. S., Septiani, D., Jalil, A., Prima, A., & Udji, A. (2023). Merevolusi Penelitian Menuju Kearifan Profetik: Paradigma Baru untuk Penemuan yang Berarti. *JIMPS: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah*, *8*(3), 1708–1721. https://doi.org/10.24815/jimps.v8i3.25290.

Sari, M. (2024). Paradigma Filosofis Integrasi Keilmuan Berdasarkan Refleksi Historis Perguruan Tinggi Keislaman: Philosophical Paradigm of Scientific Integration

Based on Historical Reflections on Islamic Higher Education. *Jurnal Filsafat Indonesia*, *7*(2), 276–285. https://doi.org/10.23887/jfi.v7i2.75649.

Sassi, K. (2020). Prinsip-prinsip Epistemologi Pendidikan Islam Paradigma Tauhid Naquib al-Attas. *Millah: Journal of Religious Studies*, *20*(1), 135–172. https://doi.org/10.20885/millah.vol20.iss1.art6.

Selamat, M. I. (2025). Sumbangan Pemikiran tentang Konsep Paradigma Tauhid dalam Sistem Pendidikan Islam: Studi Kasus M. Natsir di Indonesia. *Jurnal Ilmiah Multidisipin*, *3*(5), 238–247. https://doi.org/10.60126/jim.v3i5.935.

Setiawan, H. S., & Ratnasari, D. (2023). Analisis Integrasi-Interkoneksi Konsep Perkembangan Pendidikan Agama Islam di Indonesia: Membangun Landasan Holistik untuk Pengembangan Pendidikan Berkelanjutan. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *8*(3), 5405–5422. https://doi.org/10.23969/jp.v8i3.11680.

Shaleh, A., & Islam, M. S. (2024). Averting the Existential Threat of the Planet: Islamic Environmental Ethics to Address the Contemporary Environmental Crisis. *Intellectual Discourse*, *32*(1), 239–264. https://doi.org/10.31436/id.v32i1.1937.

Subagiya, B. (2023). Eksplorasi Penelitian Pendidikan Agama Islam Melalui Kajian Literatur: Pemahaman Konseptual dan Aplikasi Praktis. *Ta'dibuna: Jurnal Pendidikan Islam*, *12*(3), 304–318. https://doi.org/10.32832/tadibuna.v12i3.14113.

Suharto, Y. (2018). *Perihal Kewajiban Mempelajari Ilmu Tauhid*. NU Online. https://nu.or.id/ilmu-tauhid/perihal-kewajiban-mempelajari-ilmu-tauhid-W4nc7

Suwahyu, I. (2022). Eksistensi Pendidikan Islam di Era Revolusi Industri 4.0. *Jurnal Pendidikan Dan Konseling (JPDK)*, *4*(4), 3902–3910. https://doi.org/10.31004/jpdk.v4i4.6092.

Syafaq, H., Hilmy, M., Musyafaah, N. L., & Ali, M. R. A. A. (2024). Reconstructing Islamic Epistemology: Bridging Metaphysics, Reason, and Revelation. *Teosofi: Jurnal Tasawuf Dan Pemikiran Islam*, *14*(2), 240–269. https://doi.org/10.15642/teosofi.2024.14.2.240-269.

Syauqi, M. A., Darmanto, D., Zunarti, R., Shaleh, K., Asy'arie, B. F., & Ayuba, O. J. (2025).

Formation of Spiritual and Social Attitudes through Learning Akidah Akhlak in the Digital Era. *Mauriduna: Journal of Islamic Studies*, *6*(2), 272–296. https://doi.org/10.37274/mauriduna.v6i2.51.

Tajuddin, M. S., & Rofie, M. K. H. (2014). A New Paradigm of Integration Between Science and Islam: An Epistemological Framework. *Journal of Islam and Science*, *1*(1), 1–12. 10.24252/JIS.V1I1.2188.G2111.

Tan, S. C., Chan, C., Bielaczyc, K., Ma, L., Scardamalia, M., & Bereiter, C. (2021). Knowledge building: Aligning education with needs for knowledge creation in the digital age. *Educational Technology Research and Development*, *69*(4), 2243–2266. https://doi.org/10.1007/s11423-020-09914-x.

Taufiq, R., Wahyudi, A. W., Asiyah, G. S., Suherman, U., & Sukandar, A. (2025). Inovasi Kurikulum dan Integrasi Ilmu Pengetahuan Modern dalam Pendidikan Islam: Kajian Literatur. *Jurnal Pendidikan Indonesia: Teori, Penelitian, Dan Inovasi*, *5*(4), 105–116. https://doi.org/10.59818/jpi.v5i4.1671.

Triandini, F. (2023). Binaan Tauhid Terhadap Keutuhan Aqidah Islam. *JIS: Journal Islamic Studies*, *1*(3), 456–468. https://doi.org/10.71456/jis.v1i3.590.

Tumanggor, S., Bakti, H., & Al Farabi, M. (2024). Islamic Worldview Syed Muhammad Naquib Al-Attas dan Implikasinya Terhadap Paradigma Pendidikan Islam. *Islamic Management: Jurnal Manajemen Pendidikan Islam*, *7*(01), 443–458. https://doi.org/10.30868/im.v7i01.7277.

Uyuni, B., & Adnan, M. (2024). Philosophical Foundations in Training Traditional Religious Educators: Bridging Past and Present. *Futurity Philosophy*, *3*(2), 40–65. https://doi.org/10.57125/FP.2024.06.30.03.

Wajdi, M. B. N., Marpuah, S., Ahmad, S. B. A. B., Abdul, M. H. B. A. R., & Rusdi, M. (2025). Reconceptualization of Islamic Education in Indonesia: Future Strategies and Approaches. *EDUKASI: Jurnal Penelitian Pendidikan Agama Dan Keagamaan*, *23*(2), 256–270. https://doi.org/10.32729/edukasi.v23i2.1991.

Wenger, E. (1998). Communities of Practice: Learning as a Social System. *Systems Thinker*, *9*(5), 2–3.

Widisuseno, I. (2022). Development of Pancasila as Science Ethics: Strategies to Overcome Negative Impact Technological Development. *Humanika*, *29*(1), 138–

150. https://doi.org/10.14710/humanika.v29i1.46973.

Widodo, B. S., Utaya, S., Sholeh, M., & Nugraheni, L. (2023). The Effectiveness of Integrating Learning Management to Online Project-Based Learning on Students' Metacognitive Abilities. *Studies in Learning and Teaching*, *4*(1), 183–194. https://doi.org/10.46627/silet.v4i1.221.

Wijaya, I., & Sabda, S. (2023). Filosofi, Ideologi dan Paradigma Pendidikan Islam Inter, Multi dan Transdisipliner. *Al-Falah: Jurnal Ilmiah Keislaman Dan Kemasyarakatan*, *23*(1), 55–77. https://doi.org/10.47732/alfalahjikk.v23i1.176.

Winursiti, N. M., Robandi, B., & Uyun, H. (2024). Kompetensi Pedagogik Guru Sekolah Dasar dalam Pembelajaran Abad 21: Menjawab Tantangan dan Kesenjangan. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *9*(04), 102–111. https://doi.org/10.23969/jp.v9i04.19744.

Zain, S. H. W., Wilis, E., Syarkani, & Sari, H. P. (2024). Peran Pendidikan Islam dalam Pembentukan Karakter Masyarakat Berbasis Nilai-Nilai Al-Qur'an dan Hadis. *IHSAN: Jurnal Pendidikan Islam*, *2*(4), 199–215. https://doi.org/10.61104/ihsan.v2i4.365.