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Integration of General Knowledge and Religion: Strategies for Building Holistic Education in a Multidisciplinary Era

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Abstract: This article aims to explore strategies for integrating general and religious knowledge within Islamic education as an approach to building a holistic educational system aligned with the demands of the multidisciplinary era. Using a descriptive qualitative method through literature review, this study analyzes integrative practices in Islamic educational institutions, the strategic role of teachers, as well as the challenges and opportunities for strengthening integration. The findings indicate that integration models are implemented through unified curricula, thematic learning, and value-based project assignments that combine scientific and spiritual approaches. Teachers act as key agents who not only deliver subject content but also embody values through interdisciplinary teaching. Despite facing challenges such as dichotomous paradigms, limited teacher competencies, and the scarcity of integrative teaching materials, integration can be strengthened through teacher training, curriculum reform, institutional policies, and collaboration among stakeholders. Through this approach, Islamic education can cultivate *insan kamil* individuals who are intellectually excellent, spiritually grounded, and globally competitive.

Keywords: Knowledge Integration, Islamic Education, Unified Curriculum, Teacher Roles, Multidisciplinary

Abstrak: *Artikel ini bertujuan untuk mengkaji strategi integrasi antara ilmu pengetahuan umum dan agama dalam pendidikan Islam sebagai pendekatan untuk membangun sistem pendidikan yang holistik dan relevan dengan tuntutan era multidisipliner. Dengan menggunakan metode kualitatif deskriptif berbasis studi pustaka, kajian ini menganalisis praktik integrasi di lembaga pendidikan Islam, peran strategis guru, serta tantangan dan peluang penguatan integrasi. Hasil kajian menunjukkan bahwa model integrasi diaplikasikan melalui kurikulum terpadu, pembelajaran tematik, dan proyek berbasis nilai yang menggabungkan pendekatan saintifik dan spiritual. Guru berperan sebagai penggerak utama yang tidak hanya menyampaikan materi, tetapi juga menghidupkan nilai melalui praktik interdisipliner. Meskipun implementasi integrasi menghadapi tantangan seperti paradigma dikotomis, keterbatasan kompetensi guru, dan minimnya bahan ajar integratif, strategi penguatan dapat dilakukan melalui pelatihan guru, reformasi kurikulum, kebijakan sekolah yang mendukung, serta kolaborasi lintas pemangku kepentingan. Dengan pendekatan ini, pendidikan Islam dapat melahirkan insan kamil yang unggul secara intelektual, kuat secara spiritual, dan berdaya saing global.*

Kata Kunci: *Integrasi Ilmu, Pendidikan Islam, Kurikulum Terpadu, Guru, Multidisipliner.*

1. Introduction

Islamic education in the contemporary era faces complex demands due to the rapid development of science, technology, and global dynamics. To respond to these challenges, an approach is needed that not only develops the intellectual aspects of students but also builds a well-rounded personality rooted in spiritual values. In this context, the integration

of general knowledge and religion has become one of the main strategies in building a holistic and adaptive education system.[1]

The integration of science in Islamic education is not merely a conceptual idea but has become an urgent practical necessity. This is marked by a growing awareness that the separation between worldly knowledge and religious knowledge is no longer relevant in addressing the multidimensional issues facing the Muslim community. Therefore, various Islamic educational institutions have begun to develop integrated curriculum models as a concrete manifestation of these integration efforts.[2]

The concept of integrating science and religion in Islamic education is based on the epistemological unity of revelation and reason.[3] This integration aims to overcome the dichotomy between religious and scientific knowledge, addressing challenges in modern Islamic education.[4] The Islamic paradigm views all knowledge as originating from Allah, whether through revealed verses or natural phenomena, emphasizing the harmony between science and religion.[5] This integration has implications for curriculum development, teaching methods, and socio-religious education, promoting creative imagination and mutual respect for diverse beliefs.[6] By integrating Islamic education with science and technology, learning becomes more meaningful and comprehensible, helping students internalize religious values and scientific knowledge. This approach contrasts with the Western-originated dichotomy of knowledge, which stems from modernization and secular philosophies.

At the implementation level, the science integration model can be seen in integrated Islamic schools that develop value-based and spiritual curricula. For example, SMP IT Bunayya implements integration into the core curriculum and learning themes that touch on the cognitive, affective, and psychomotor domains, as well as the spiritual and social domains. Learning projects, religious activities, and field trips are used as mediums for character building and strengthening students' integrative understanding.[7]

Lecturers and teachers play a central role in the success of science integration. They are not only conveyors of material, but also facilitators who are able to bridge religious and general knowledge in a contextual manner. Research shows that integration will be effective if educators have interdisciplinary competencies and supporting pedagogical skills.[8]

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[1] Yusrizal. "Pentingnya Integritas Ilmu Pengetahuan Umum dalam Mata Kuliah Pendidikan Agama Islam: Perspektif Dosen dan Mahasiswa." Al-Ihda': Jurnal Pendidikan dan Pemikiran 17, no. 2 (2024): 849–854. https://doi.org/10.55558/alihda.v17i2.141

[2] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

[3] Abd. Salam et al., The Concept of Integrating Science and Religion in Islamic Education, 2024.

[4] Abd. Salam et al., The Concept of Integrating Science and Religion in Islamic Education, 2024; Mahyarni & Alpizar, Challenges in Islamic Education and Science Integration, 2024.

[5] J. Junaidi et al., Islamic Paradigm of Knowledge and Its Relevance to Modern Education, 2024.

[6] Mahyarni & Alpizar, Challenges in Islamic Education and Science Integration, 2024.

[7] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

[8] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

The role of teachers is not limited to the classroom but also extends to creating a learning environment that supports integration. This can be seen in practice at SDN 1 Montong Baan, where PAI teachers have successfully synergised *fiqh* lessons with health science concepts through differentiated and contextual learning methods.[9]

Although integration offers many benefits such as character building, critical thinking skills, and relevance of learning, its implementation is not without challenges. Some of these include limited teacher competence, resistance to dichotomous paradigms, and a lack of supporting resources such as teaching modules and specialised training.[10]

The importance of integrating knowledge is also evident in the context of higher education. PAI lecturers who can link science with religious teachings have proven to be more successful in creating relevant and meaningful learning experiences for students. In addition, students also show improvement in their understanding of religion and the application of values in their daily lives.[11]

The integration of religious and secular knowledge in Islamic education is crucial for developing well-rounded individuals with intellectual, moral, and spiritual capabilities. This approach aims to create harmony between spiritual and rational understanding, viewing both types of knowledge as originating from God.[12] The integration of Quranic teachings with science and social sciences is essential for effective education and social development.[13] Islamic perspective emphasizes the importance of education and knowledge in shaping human future, focusing on the role of intellect, khalifah function, and the integration of religious and general sciences.[14] This integrative approach is seen as a solution to contemporary challenges, fostering individuals who are academically excellent, spiritually grounded, and socially responsible.[15]

Based on this background, this article aims to analyse integrative approaches in Islamic education, focusing on strategies, challenges, and implementation models at the educational institution level. This approach is expected to strengthen the role of Islamic education as a main pillar in building a civilisation that is intellectually intelligent and spiritually noble.

2. Method

This study uses a descriptive qualitative approach that aims to explore the concepts, practices, and challenges of integrating general knowledge and religion in the context of

[9] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

[10] Yusrizal. "Pentingnya Integritas Ilmu Pengetahuan Umum dalam Mata Kuliah Pendidikan Agama Islam: Perspektif Dosen dan Mahasiswa." Al-Ihda': Jurnal Pendidikan dan Pemikiran 17, no. 2 (2024): 849–854. https://doi.org/10.55558/alihda.v17i2.141

[11] Hasan, A. "Manfaat Integrasi Ilmu Umum dalam Pendidikan Agama Islam." Jurnal Pendidikan dan Pemikiran 17, no. 2 (2020): 849–854

[12] M. R. Mubarok et al., Developing Well-Rounded Individuals in Islamic Education, 2024.

[13] Ghulam Murtadlo et al., Quranic Teachings and Their Integration with Science and Social Sciences, 2023.

[14] Ummi Alfiyyatur Rohmaniyyah & Elina Susanti, The Role of Intellect and Khalifah Function in Islamic Education, 2024.

[15] M. R. Mubarok et al., Developing Well-Rounded Individuals in Islamic Education, 2024.; Rizzan et al., The Integration of Religious and Secular Knowledge in Islamic Education, 2025; M. R. Mubarok et al., Developing Well-Rounded Individuals in Islamic Education, 2024.

Islamic education. This approach was chosen because it is suitable for exploring complex social and educational phenomena and understanding the meaning behind integrative practices that occur in various educational institutions. Data collection techniques in this study involve a literature review of scientific journal articles discussing the application of integrative curricula, the role of teachers, and the implementation of integration models in Islamic education at the primary, secondary, and tertiary levels.

The data sources were analysed using thematic content analysis techniques, with the following steps: topic identification, data categorisation based on main themes (integration concepts, implementation models, challenges, and strategies), and contextual interpretation of the data. This study does not aim to test hypotheses but rather to formulate a comprehensive understanding of how science integration can be applied holistically and effectively in Islamic educational institutions. Data validity is strengthened by using secondary data from indexed journals published in the last five years, so that the results of this study can be used as a basis for developing a more adaptive and contextual integrative curriculum.

3. Result and Discussion

Practice of Integrating Science and Interconnected Learning

The integration of general knowledge and religion has become a strategic necessity in today's Islamic education system. In the context of curriculum implementation, this integration is not merely understood as the merging of subject matter but rather as the design of a learning structure that is epistemologically and pedagogically integrated. Modern Islamic schools and transformative boarding schools have begun to implement integrated curriculum models that synergise religious values with contemporary scientific and social perspectives.[16]

At SMP IT Bunayya, for example, curriculum integration is realised in two main forms: first, integration in terms of content or subject matter, and second, integration in the form of learning themes. At the content level, subjects such as biology, physics, and social studies are directly linked to principles in the Qur'an and hadith. For example, learning about the process of photosynthesis is linked to verses about the signs of Allah's power in plants.

The integration is not merely superficial or formal. This model emphasises unity between cognitive, affective, and spiritual aspects of learning. Teachers are required not only to convey scientific material but also to instil Islamic values in every teaching process. This is where interconnection learning emerges, an approach that connects different fields of knowledge through the foundation of tawhid.[17]

This learning model is also widely applied in Islamic boarding schools and elite madrasahs. Some Islamic boarding schools have developed science curricula that systematically incorporate verses from the Quran as an introduction to topics. For example, when studying cell structure or the laws of physics, students are encouraged to reflect on the

[16] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

[17] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

orderliness of nature as a sign of God's oneness. This not only builds intellectual understanding but also strengthens students' spiritual connection with their Creator.[18]

Some curriculum approaches even use a spider web model, where one main theme such as "the environment" is used as the basis for integrating PAI, science, social studies, and Indonesian language lessons. PAI teachers discuss it from the perspective of protecting God's creation, science teachers teach about ecosystems, while language teachers guide students in writing reflective essays about human responsibility towards the earth.[19]

This approach trains students to think across disciplines and encourages them to see science as a unified whole rather than separate entities. This learning method also fosters social and ecological awareness, as students are accustomed to linking knowledge with moral responsibility. Furthermore, students become more reflective and solution-oriented in addressing contemporary issues such as the environment, health, and digital media.[20]

In some integrated Islamic schools, integration is also implemented through project-based learning activities. Students are encouraged to develop projects that combine scientific research with religious studies. For example, a project on waste management is linked to the concept of cleanliness in Islam and responsibility towards nature as a trust from Allah. These activities integrate scientific observation with ethical values, thereby creating a holistic learning experience.[21]

However, the implementation of this integrated curriculum is not without technical and methodological challenges. Many teachers still think within the confines of traditional disciplines and are not accustomed to cross-subject learning designs. Therefore, strengthening teacher competencies through integrative training is an urgent need so that the integrated curriculum model can be implemented consistently.[22]

These efforts to update the curriculum must also be supported by an inclusive administrative structure and academic culture. Schools that have successfully implemented science integration typically have a culture of dialogue among teachers, collaboration in designing lesson plans, and evaluation that does not solely assess cognitive achievement but also students' character growth and spirituality.[23]

Thus, the practice of integrated curriculum and interconnected learning in Islamic education is not merely a pedagogical innovation, but a manifestation of the Islamic scientific paradigm itself. This paradigm teaches that knowledge, in all its forms, is a path to understanding and devotion to Allah. Therefore, an integrated curriculum serves as a bridge

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[18] Setiawan, A. "Evaluasi Asesmen Pembelajaran Berbasis Integrasi Ilmu di Sekolah Islam Terpadu." Jurnal Pendidikan Terpadu 6, no. 1 (2024): 77–89.

[19] Salsabila, D., F. Maulida, dan I. Nurhayati. "Model Integrasi Pendidikan Islam dan Ilmu Pengetahuan dalam Kurikulum Tematik." Jurnal Karakter 1, no. 4 (2024): 169–182.

[20] Huda, N., dan L. Wahyuni. "Model Integrasi Nilai Keislaman dalam Pembelajaran IPA di MTsN." Jurnal Tarbiyah Islamiyah 10, no. 1 (2022): 112–129.

[21] Afif, Muhammad Nur Hafidz, Eva Latipah, dan Yayan Suryana. "Implementasi Integrasi-Interkoneksi pada Pembelajaran Ulumul Hadits di Program Studi Sosiologi UIN Sunan Kalijaga Yogyakarta." MANAZHIM: Jurnal Manajemen dan Pendidikan Islam 4, no. 2 (2022): 355–370. https://doi.org/10.36088/manazhim.v4i2.1828.

[22] Basir, A. "Implementasi Integrasi Ilmu pada Mata Pelajaran PAI di Sekolah Islam Nabila Kota Batam." At-Tarbawi: Jurnal Kajian Kependidikan Islam 6, no. 2 (2021): 95–107. https://doi.org/10.22515/attarbawi.v6i2.3831

[23] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

to the emergence of well-rounded individuals who think scientifically, possess Qur'anic ethics, and act socially responsibly.[24]

The Role of Teachers as Drivers of Science Integration

The role of teachers in Islamic education is not limited to delivering material, but also as key actors in transforming the paradigm of knowledge integration to students. Teachers have a responsibility to be the link between general knowledge and religious values, as well as role models in bringing scientific integrity to life in the learning process.[25] In this context, teachers become key elements in creating meaningful and holistic learning, touching not only cognitive aspects but also the affective and spiritual aspects of students.

In modern Islamic schools and institutions that implement an integrative system, teachers are required to perform several roles at once, including as facilitators, motivators, demonstrators, and sources of learning. At SDN 1 Montong Baan, for example, PAI teachers not only teach the procedures for worship, but also explain the essence and impact of worship on the health, social, and moral aspects of students.[26] This shows that teachers do not merely transfer information but also transfer values and meanings that are relevant to modern life.

Teachers as facilitators are required to provide learning resources that support the integration of science and religion. They must be able to select media, design tasks, and create a conducive learning environment for the growth of integrative awareness in students. In this case, teachers do not only focus on cognitive learning outcomes, but also on how students understand that every subject they learn has a value foundation.[27]

The role of teachers as motivators is important in stimulating students' enthusiasm for learning, especially when dealing with material that requires interdisciplinary analysis. Teachers who are able to relate science lessons to relevant verses from the Qur'an or hadiths will be more successful in building students' interest. Students will not only learn facts, but also gain a moral and spiritual understanding of why it is important to study these subjects.[28]

Teachers also need to play the role of demonstrators, especially in teaching how knowledge can be implemented in real life with Islamic values as the foundation. For example, in teaching thaharah (purification), PAI teachers not only teach the procedures for purification, but also incorporate the values of cleanliness and health from medical and social perspectives.[29] This teaches students that worship is not merely a ritual activity, but part of a comprehensive Islamic lifestyle.

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[24] Yasmansyah, Y., dan S. Zakir. "Arah Baru Pendidikan Islam di Era Digitalisasi." Jurnal Ilmu Pendidikan (JKIP) 3, no. 1 (2022): 1–10.

[25] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

[26] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

[27] Basir, A. "Implementasi Integrasi Ilmu pada Mata Pelajaran PAI di Sekolah Islam Nabila Kota Batam." At-Tarbawi: Jurnal Kajian Kependidikan Islam 6, no. 2 (2021): 95–107. https://doi.org/10.22515/attarbawi.v6i2.3831

[28] Huda, N., dan L. Wahyuni. "Model Integrasi Nilai Keislaman dalam Pembelajaran IPA di MTsN." Jurnal Tarbiyah Islamiyah 10, no. 1 (2022): 112–129

[29] Afif, Muhammad Nur Hafidz, Eva Latipah, dan Yayan Suryana. "Implementasi Integrasi-Interkoneksi pada Pembelajaran Ulumul Hadits di Program Studi Sosiologi UIN Sunan Kalijaga Yogyakarta." MANAZHIM:

However, the strategic role of teachers is often hampered by a lack of professional training that supports the integration of knowledge. Many teachers, especially in non-elite schools, still teach using traditional approaches that separate general knowledge and religion. They have not been equipped with the skills needed to design integrative curricula or teach using relevant interdisciplinary methods.[30]

In addition to technical skills, teachers are also required to have high scientific integrity. They must be role models in terms of academic honesty, intellectual responsibility, and openness to various scientific approaches. Teachers who can demonstrate integrity in writing, teaching, and assessing will inspire students to be honest and responsible in their learning process.[31]

Integrative education also requires synergy among teachers across subjects. In practice, PAI teachers need to collaborate with science, social studies, and even language teachers to design learning projects or broad themes that connect various scientific perspectives. This collaboration requires an open and trusting academic culture among educators.[32]

Teachers' responsibility in the integration of knowledge also includes developing fair and holistic assessments. Teachers must be able to design evaluation instruments that not only measure memorisation and theoretical understanding, but also students' reflective abilities in connecting knowledge with values and real behaviour. Portfolio-based assessments, reflective journals, or value-based presentations are relevant tools for this approach.[33]

Therefore, strengthening the role of teachers in the integration of knowledge requires support from various parties. Educational institutions must provide space for innovation, regular training, and rewards for teachers who are able to consistently apply integration. Thus, teachers will not only be implementers of the curriculum, but also agents of change in building a comprehensive and relevant Islamic scientific paradigm in the 21st century.[34]

Positive Impact of Integration on Students and the Learning Environment

The application of general knowledge and religious studies in education has a significant positive impact on the overall development of students. One of the most striking impacts is the formation of students' characters, who are not only academically intelligent, but also spiritually and emotionally mature. Students are encouraged to not only understand natural and social phenomena, but also reflect on them within the framework of Islamic values and ethics.[35]

Jurnal Manajemen dan Pendidikan Islam 4, no. 2 (2022): 355–370. https://doi.org/10.36088/manazhim.v4i2.1828.

[30] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

[31] Zarif, M. "Peran Integritas dalam Lembaga Pendidikan." Jurnal Pendidikan 45, no. 2 (2019): 123–135.

[32] Salsabila, D., F. Maulida, dan I. Nurhayati. "Model Integrasi Pendidikan Islam dan Ilmu Pengetahuan dalam Kurikulum Tematik." Jurnal Karakter 1, no. 4 (2024): 169–182.

[33] Setiawan, A. "Evaluasi Asesmen Pembelajaran Berbasis Integrasi Ilmu di Sekolah Islam Terpadu." Jurnal Pendidikan Terpadu 6, no. 1 (2024): 77–89.

[34] Yasmansyah, Y., dan S. Zakir. "Arah Baru Pendidikan Islam di Era Digitalisasi." Jurnal Ilmu Pendidikan (JKIP) 3, no. 1 (2022): 1–10.

[35] Yusrizal. "Pentingnya Integritas Ilmu Pengetahuan Umum dalam Mata Kuliah Pendidikan Agama Islam: Perspektif Dosen dan Mahasiswa." Al-Ihda': Jurnal Pendidikan dan Pemikiran 17, no. 2 (2024): 849–854. https://doi.org/10.55558/alihda.v17i2.141

Through an integrative approach, students become accustomed to viewing science not in isolation, but as a unified whole. When they study the law of gravity in physics, for example, they are also encouraged to reflect on the orderliness of God's creation. This gives rise to an awareness that science is not merely a technical tool, but also a path to understanding the nature of life and greatness.

Interconnected learning has also been proven to improve students' critical thinking skills. The integration of scientific approaches and religious values encourages students to view issues from various perspectives: logical, ethical, and spiritual. Problem-based projects designed across subjects encourage them to conduct more in-depth analysis, synthesis, and evaluation.[36]

Furthermore, this approach increases student engagement and motivation to learn. Lessons are no longer seen as an academic burden, but as meaningful experiences because they are related to their real lives. Students become more active in asking questions, discussing, and researching because they feel that the learning process is relevant to the values they hold and the problems they face.[37]

In social terms, the integration of knowledge helps shape students who have high levels of empathy and social awareness. When knowledge is taught alongside values such as justice, compassion, and responsibility, students tend to be more sensitive to social issues around them. They are encouraged to get involved in social activities such as environmental initiatives, humanitarian programmes, and advocacy for justice.[38]

In the school environment, integrative learning fosters a more collaborative and reflective academic culture. Teachers and students no longer work within disciplinary boundaries, but learn from and collaborate with each other to understand issues comprehensively. Class discussions become livelier as they combine scientific, religious, and moral approaches to a single topic.[39]

This kind of learning environment encourages the emergence of a healthy learning community that respects and enriches one another. School is not only a place to learn knowledge, but also a place to nurture values, attitudes, and a religious scientific culture. Activities such as MABIT (religious retreat), thematic studies, and scientific discussions with an Islamic perspective are part of the school's daily culture.[40]

The integration of knowledge also has an impact on students' mindsets regarding their future and aspirations. Many students are inspired to pursue further education in fields that have traditionally been considered secular—such as technology, medicine, or economics—with the aim of incorporating Islamic values into their academic practices. This demonstrates

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[36] Fatimah, S. "Praktik Interkoneksi Agama dan Sains dalam Kurikulum Pendidikan Islam di Madrasah Tsanawiyah." Jurnal Ilmu Pendidikan Islam 4, no. 1 (2022): 23–37.

[37] Salsabila, D., F. Maulida, dan I. Nurhayati. "Model Integrasi Pendidikan Islam dan Ilmu Pengetahuan dalam Kurikulum Tematik." Jurnal Karakter 1, no. 4 (2024): 169–182.

[38] Huda, N., dan L. Wahyuni. "Model Integrasi Nilai Keislaman dalam Pembelajaran IPA di MTsN." Jurnal Tarbiyah Islamiyah 10, no. 1 (2022): 112–129

[39] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

[40] Afif, Muhammad Nur Hafidz, Eva Latipah, dan Yayan Suryana. "Implementasi Integrasi-Interkoneksi pada Pembelajaran Ulumul Hadits di Program Studi Sosiologi UIN Sunan Kalijaga Yogyakarta." MANAZHIM: Jurnal Manajemen dan Pendidikan Islam 4, no. 2 (2022): 355–370. https://doi.org/10.36088/manazhim.v4i2.1828.

that an integrative approach does not hinder intellectual development but rather broadens the scope of thinking.[41]

Psychologically, this approach builds a strong and resilient identity in students. They do not experience confusion about values because from an early age they have been accustomed to viewing the world and knowledge through the lens of tawhid. This has an impact on their resilience in the face of secular and permissive global values, while instilling strong principles for dealing with change.[42]

Another positive impact that is often overlooked is the growth of integrity among students. When knowledge is taught alongside values such as honesty, fairness, and trustworthiness, students develop into individuals who uphold academic and social ethics. This becomes an important foundation in building the future of Islamic education that is not only intellectually superior, but also morally and spiritually noble.[43]

Challenges in the Application of Science Integration

Although the discourse on integrating general knowledge and religion has been widely discussed, its implementation still faces various challenges. One of the most fundamental obstacles is the strong dichotomous paradigm in the thinking structure of some educators and education policy makers. This paradigm considers religious knowledge and general knowledge to be two entities that are separate in terms of epistemology, methodology, and even ideology.[44]

This condition is often reinforced by the long history of education in Indonesia, which since colonial times has divided education into religious and secular tracks. This division has created a structural separation that is difficult to unravel, even today. This has resulted in a curriculum design that tends to separate Islamic studies and modern science, without any systematic space for integration.[45]

Another challenge is the limited competence of teachers in designing and implementing integrative learning. Many teachers are accustomed to teaching based on textbooks and traditional monodisciplinary curricula. When asked to design lessons that link verses from the Qur'an with natural laws, or hadiths with social phenomena, they feel they lack adequate pedagogical skills.[46]

These limitations are exacerbated by the lack of professional training and development focused on an integrative approach. Most teacher training is still oriented towards improving technical competencies, such as the use of digital media or assessment development, without

[41] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

[42] Yasmansyah, Y., dan S. Zakir. "Arah Baru Pendidikan Islam di Era Digitalisasi." Jurnal Ilmu Pendidikan (JKIP) 3, no. 1 (2022): 1–10.

[43] Zarif, M. "Peran Integritas dalam Lembaga Pendidikan." Jurnal Pendidikan 45, no. 2 (2019): 123–135.

[44] Dalimunthe, I. S. "Analisis Penerapan Konsep Integrasi Pengetahuan dalam Sistem Pendidikan SMP Islam Terpadu Bunayya." Al-Hikmah: Jurnal Agama dan Ilmu Pengetahuan 18, no. 2 (2021): 90–103. https://doi.org/10.25299/al-hikmah:jaip.2021.vol18(1).7354

[45] Yusrizal. "Pentingnya Integritas Ilmu Pengetahuan Umum dalam Mata Kuliah Pendidikan Agama Islam: Perspektif Dosen dan Mahasiswa." Al-Ihda': Jurnal Pendidikan dan Pemikiran 17, no. 2 (2024): 849–854. https://doi.org/10.55558/alihda.v17i2.141

[46] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

touching on the epistemological aspects and integration of values in learning.[47] As a result, teachers find it difficult to be facilitators of values and knowledge at the same time.

Apart from teachers, the lack of integrated teaching materials is also a serious obstacle. Textbooks used in schools are generally developed on a sectoral basis, according to their respective fields of study. It is rare to find mathematics, physics or biology textbooks that explicitly link the material to Islamic principles. This makes it difficult for teachers to create holistic teaching.[48]

Resistance from some parents and students cannot be ignored. Some people still believe that mixing religious material with science will reduce the depth of both subjects. There are concerns that this approach will obscure the authenticity of religious teachings or create confusion in understanding scientific concepts objectively.[49]

Institutionally, not all schools have a strong vision and commitment to implementing an integrated curriculum. Many Islamic schools simply add religious studies to the timetable without truly integrating religious and scientific content into a single learning activity. This makes the integration of knowledge a mere administrative formality rather than a transformative process.

National education policy also still lacks concrete support for the development of science integration. Although the Merdeka Curriculum provides schools with flexibility in developing their curricula, there are no official guidelines explaining how science integration should be implemented in practice. Schools are ultimately left to their own devices, without adequate support systems.[50]

Another common challenge is the limited time available for teaching. Teachers feel that the time allocated for each lesson is too short to combine two different fields of knowledge. As a result, they prefer to focus on achieving cognitive curriculum targets rather than pursuing a more in-depth integrative dimension.[51]

Furthermore, the absence of an evaluation system capable of measuring the outcomes of integrative learning is also an obstacle. National examinations and assessments in schools still focus on factual knowledge rather than on students' reflective, affective, or spiritual abilities. This prevents the integration of knowledge from being included in learning outcome indicators.[52]

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[47] Afif, Muhammad Nur Hafidz, Eva Latipah, dan Yayan Suryana. "Implementasi Integrasi-Interkoneksi pada Pembelajaran Ulumul Hadits di Program Studi Sosiologi UIN Sunan Kalijaga Yogyakarta." MANAZHIM: Jurnal Manajemen dan Pendidikan Islam 4, no. 2 (2022): 355–370. https://doi.org/10.36088/manazhim.v4i2.1828.

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[50] Yasmansyah, Y., dan S. Zakir. "Arah Baru Pendidikan Islam di Era Digitalisasi." Jurnal Ilmu Pendidikan (JKIP) 3, no. 1 (2022): 1–10.

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Strategies for Strengthening the Integration of Science in Islamic Educational Institutions

The integration of religious and general sciences in Islamic education institutions is crucial for developing intelligent and noble generations with an integrative worldview.[53] This integration aims to align Islamic values with modern knowledge through the concept of Islamization of science. Implementation requires a systematic approach involving curriculum design, learning models, and the relationship between science and religion.[54] Challenges include lack of understanding, technological changes, and differing perspectives, which can be addressed by improving teacher quality and adapting curricula. The integration process should be based on philosophical, material, methodological, and strategic concepts. This approach aims to create a harmonious, holistic, and comprehensive view of knowledge, grounded in the Quran and Hadith.[55]

The first crucial step is to restructure the curriculum to be oriented towards an interdisciplinary and transdisciplinary approach. A good curriculum must be able to design a learning structure that not only presents material in the form of separate subjects but also connects them through major themes that contain Islamic values. The development of thematic and project-based curricula is one of the most promising strategies in this regard.[56]

Second, strengthening teacher competence is a key element in ensuring the success of integrative strategies. Teachers must be equipped with the ability to design integration-based learning, understand the epistemology of Islamic science, and possess interdisciplinary pedagogical skills. Regular, practice-based teacher training is an absolute necessity to ensure that the integration of knowledge does not remain merely theoretical.[57]

Third, schools or educational institutions need to provide teaching materials specifically designed to support integrative learning. Textbooks and lesson modules should contain concrete examples of the application of Islamic values in science, social studies, and technology. The publication of integrative textbooks will greatly assist teachers in systematically building connections between knowledge and values.[58]

The fourth strategy is to encourage collaboration among teachers across subjects. This collaboration can be realised in the form of joint lesson planning, teaching teams, and action research based on the integration of knowledge. When PAI, science, and social studies teachers sit together to develop thematic lesson plans, integration will emerge organically from the dynamics of a team that complements each other.[59]

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[53] Annisa Fitri et al., The Integration of Religious and General Sciences in Islamic Education Institutions, 2024; Khairul Anwar et al., Islamization of Science and Curriculum Design, 2024.

[54] Aidil Ridwan Daulay & Salminawati, Challenges in Integrating Science and Religion in Islamic Education, 2022.

[55] Ayu Wanida Ayu & Abu Anwar, Philosophical and Methodological Approaches in Islamic Science Integration, 2024.

[56] Afif, Muhammad Nur Hafidz, Eva Latipah, dan Yayan Suryana. "Implementasi Integrasi-Interkoneksi pada Pembelajaran Ulumul Hadits di Program Studi Sosiologi UIN Sunan Kalijaga Yogyakarta." MANAZHIM: Jurnal Manajemen dan Pendidikan Islam 4, no. 2 (2022): 355–370. https://doi.org/10.36088/manazhim.v4i2.1828.

[57] Ariatman, R., dan D. Ramdhani. "Peran Guru dalam Meningkatkan Integrasi Keilmuan Siswa: Studi Kasus SDN 1 Montong Baan." Tawazun: Jurnal Pendidikan Islam 17, no. 2 (2024): 419–432. https://doi.org/10.32832/tawazun.v17i2.16613

[58] Basir, A. "Implementasi Integrasi Ilmu pada Mata Pelajaran PAI di Sekolah Islam Nabila Kota Batam." At-Tarbawi: Jurnal Kajian Kependidikan Islam 6, no. 2 (2021): 95–107. https://doi.org/10.22515/attarbawi.v6i2.3831

[59] Salsabila, D., F. Maulida, dan I. Nurhayati. "Model Integrasi Pendidikan Islam dan Ilmu Pengetahuan dalam Kurikulum Tematik." Jurnal Karakter 1, no. 4 (2024): 169–182.

Fifth, school management needs to develop internal policies that encourage an integrative culture. Starting from the school's vision and mission, rules and regulations, assessment systems, to extracurricular activities, everything must reflect the spirit of unifying knowledge and values. Leading Islamic schools such as Nabila Islamic School Batam have implemented this approach through activities such as integration in lesson plans, spirituality-based field trips, and interdisciplinary studies.[60]

Sixth, learning evaluation should also be directed towards assessing the success of science integration. Assessment should no longer focus solely on academic achievement, but also on affective and spiritual aspects. The use of instruments such as reflective journals, cross-curricular projects, and value-based assessments can be solutions for measuring learning success holistically.[61]

Seventh, strengthening strategies must also target the development of academic culture in schools. Scientific seminars, thematic studies, joint training, and the formation of teacher learning communities are concrete steps to build an environment that supports the integration of knowledge. A healthy culture of interdisciplinary discussion will foster a shared awareness that integration is not a rigid concept, but a dynamic collaborative process.[62]

Eighth, partnerships between schools, universities, and research institutions can be utilised to strengthen the integration of knowledge. Religious higher education institutions such as UIN have become pioneers in the development of integrative epistemology through the integration-interconnection model. Cooperation with institutions such as these will strengthen the theoretical and practical foundations for secondary schools.[63]

Ninth, it is important to advocate to the government for national curricula and assessment systems that provide greater scope for integrative approaches. Regulations have thus far been too sectoral, making it difficult for teachers and schools that want to innovate in integrating the two fields of knowledge. With supportive policies, science integration will flourish not only in private or elite Islamic schools, but also in madrasahs and public schools.[64]

Finally, the strategy to strengthen the integration of knowledge will not succeed without the collective commitment of all school components from the principal, teachers, students, to parents. The integration of knowledge is not merely a curriculum-based effort but a cultural movement that demands consistency, exemplary behaviour, and the courage to change. When the values of tawhid and knowledge are integrated into every aspect of education, a generation emerges that is not only intelligent and skilled but also of noble character and makes a tangible contribution to civilisation.[65]

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[60] Basir, A. "Implementasi Integrasi Ilmu pada Mata Pelajaran PAI di Sekolah Islam Nabila Kota Batam." At-Tarbawi: Jurnal Kajian Kependidikan Islam 6, no. 2 (2021): 95–107. https://doi.org/10.22515/attarbawi.v6i2.3831

[61] Setiawan, A. "Evaluasi Asesmen Pembelajaran Berbasis Integrasi Ilmu di Sekolah Islam Terpadu." Jurnal Pendidikan Terpadu 6, no. 1 (2024): 77–89.

[62] Huda, N., dan L. Wahyuni. "Model Integrasi Nilai Keislaman dalam Pembelajaran IPA di MTsN." Jurnal Tarbiyah Islamiyah 10, no. 1 (2022): 112–129

[63] Yasmansyah, Y., dan S. Zakir. "Arah Baru Pendidikan Islam di Era Digitalisasi." Jurnal Ilmu Pendidikan (JKIP) 3, no. 1 (2022): 1–10.

[64] Tirtayasa. Integrasi Neurosains dan Pendidikan Islam: Pendekatan Holistik untuk Menceritakan Potensi Anak. Malang: Alumni Program Pascasarjana Universitas Muhammadiyah Malang, 2024.

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4. Conclussion

The integration of general knowledge and religion is an important strategy in developing holistic and relevant Islamic education in this multidisciplinary era. Education that only emphasises cognitive aspects without spiritual values has proven to be insufficient in shaping well-rounded individuals. Therefore, the integration of knowledge is the answer to the need for an educational model that can unite the dimensions of rationality and transcendence.

From the discussion above, it can be concluded that integration practices have been implemented through integrated curricula and interconnected learning in several Islamic educational institutions, both schools and Islamic boarding schools. Thematic, integrative, and project-based learning models have shown positive results in improving conceptual understanding while strengthening students' awareness of values and ethics.

Teachers play a central role in realising the integration of knowledge, not only as educators, but also as promoters of values and facilitators of interdisciplinary learning. The success of integration depends heavily on teachers' ability to design learning that links knowledge and values in a contextual and reflective manner.

In general, the integrative approach has a positive impact in various aspects, including increased motivation to learn, critical thinking skills, character building, and the creation of a collaborative and spiritual learning environment. However, challenges such as a dichotomous paradigm, limited teacher competence, a lack of integrative teaching materials, and minimal supporting policies remain major obstacles.

To address these challenges, a comprehensive strengthening strategy is needed, ranging from curriculum reform, teacher training, provision of contextual teaching materials, school policies that support integration, to an evaluation system that measures affective and spiritual achievements. Collaboration among stakeholders, including the government, universities, and the community, is essential to build an Islamic education ecosystem that unites faith and knowledge.

Thus, the integration of knowledge is not merely a methodological approach to learning, but also a true paradigm of Islamic education, namely education that shapes perfect human beings: intellectually intelligent, spiritually resilient, and contributing meaningfully to social life.

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