Bridging Reason and Revelation in Traditional Islamic Education

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ABSTRACT

This study explores the integration of reason (ʿaql) and revelation (naql) within the framework of traditional Islamic education. While modern science emphasizes empirical knowledge and rational inquiry, Islamic education has historically rooted itself in divine revelation and classical scholarship. The research investigates how traditional Islamic institutions can bridge these two epistemological domains, promoting a holistic educational model that nurtures both intellectual and spiritual growth. Using a qualitative approach, this study examines curriculum practices, pedagogical models, and educator perspectives to understand the challenges and opportunities in harmonizing scientific reasoning with religious values. The findings highlight that integration is not only possible but essential in shaping learners who are intellectually competent and spiritually grounded. This research contributes to the discourse on educational reform by proposing pathways for meaningful dialogue between faith-based traditions and contemporary knowledge systems.

INTRODUCTION

A. Background

Islamic education essentially aims to develop the whole person—one who is capable of fulfilling their role as a servant of Allah and as a khalifah (vicegerent) on earth. From this perspective, education is not only directed toward the development of intellectual abilities (reason), but also spiritual (faith and ethics), emotional, and social dimensions. Therefore, Islamic education should ideally be comprehensive and integrative, uniting scientific knowledge with Islamic values in a holistic system (Azra, 2012). As science and technology advance rapidly, Islamic education faces a major challenge: how to respond to the demands of the times without losing its Islamic identity. Many Islamic educational institutions still focus on religious instruction in a normative-doctrinal way, while mastery of science and technology is often seen as a separate domain. Yet historically, Islamic civilization was enriched by scholars such as

Ibn Sina, Al-Khwarizmi, and Al-Biruni—figures who were both scientists and theologians, and whose work demonstrated that knowledge integration was central to the strength of classical Islamic civilization.

In Indonesia, the dualistic model separating religious and secular education remains prevalent. Islamic boarding school-based institutions often excel in character and religious development, but may underemphasize the advancement of scientific knowledge. Conversely, general schools frequently detach religious values from the scientific disciplines they teach. Ideally, in an integrative Islamic education approach, there should be no dichotomy between 'ilm al-din (religious sciences) and 'ilm al-dunya (worldly sciences), as both are manifestations of the vast knowledge of Allah (Al-Attas, 1993). SMP Miftakhurrosyidin in Temanggung serves as a representative case of an institution striving to integrate these two domains. As a pesantren-based school, it has a strong foundation in traditional Islamic education, including flagship programs such as Tahfidzul Qur'an and classical Islamic texts (Kitab Kuning). These programs foster not only memorization and textual understanding, but also spiritual discipline and moral character. At the same time, the school implements the national curriculum, which includes general subjects like Mathematics, Science, and Social Studies—requiring students to think critically, analytically, and systematically.

Integrating science and Islam in such institutions is not an easy task. A thoughtful approach is necessary to ensure that the integration goes beyond symbolic gestures or formalities. For example, merely citing Qur'anic verses at the beginning of a science lesson is not sufficient to build deep spiritual engagement with scientific inquiry. What is truly needed is an understanding that studying science is a form of worship, and that natural phenomena are ayat kauniyah—signs of God's power in the universe—to be explored both scientifically and spiritually (Muhaimin, 2009; Suyadi, 2015). In this context, teachers play a crucial role as facilitators of knowledge integration. They are not just content deliverers, but are expected to meaningfully connect scientific concepts with Islamic values. For instance, in a Biology lesson on the respiratory system, teachers can invite students to reflect on the perfection of Allah's creation in the human body. Or in Physics, when discussing the law of gravity, they can guide students to contemplate the orderliness of the universe as a manifestation of sunnatullah.

Beyond pedagogy, the school culture must also support this integration. A religious learning environment, structured Islamic activities, and collaboration between general subject teachers and religious teachers are all part of a system that enables knowledge integration. SMP Miftakhurrosyidin provides a conducive atmosphere for this process, thanks to its pesantren-based character which offers a strong spiritual foundation. Therefore, the school is worthy of study in understanding how science and Islam are integrated in daily educational practice. Through this research, the writer seeks to explore the actual practices of science-Islam integration at SMP Miftakhurrosyidin. The study aims not only to describe, but also to analyze the forms of integration—ranging from curriculum structure and teaching strategies to student and teacher responses. It is hoped that the findings will contribute

meaningfully to the development of integrative Islamic education models at the secondary level, and ins

B. Research Questions

Based on the background above, the research questions in this study are as follows:

1. What forms of integration between science and traditional Islamic education are implemented ?
2. What strategies or methods do teachers use to incorporate Islamic values into science learning?
3. What challenges are encountered in the process of integrating science and Islam in a pesantren-based school environment?
4. How do students and teachers respond to the implementation of science-Islam integration in teaching and learning?

C. Research Objectives

This study aims to:

1. Describe the forms of integration between science and Islamic values implemented.
2. Analyze the teaching strategies or approaches used by teachers to connect science material with Islamic principles.
3. Identify the challenges encountered in efforts to integrate science and Islam in a pesantren-based school.
4. Explore student and teacher perceptions regarding the application of science-Islam integration in the learning process.pire other schools to establish educational systems that unite reason and faith.

LITERATURE REVIEW

1. **Sains dalam Islam** (Joni, 2023)

This book explores the concept of Islamic Science and its application in the learning process. Islamic Science is not limited to empirical aspects but also integrates Islamic values. The goal of Islamic Science education is to build a holistic understanding that encompasses both rational and spiritual dimensions. The integration of science and Islam in education involves an interdisciplinary approach, enabling students not only to understand natural phenomena scientifically but also to internalize their meaning from an Islamic perspective. The learning process emphasizes methods grounded in both naqli (revealed) and aqli (rational) sources, philosophical reflection, and real-life application. Thus, Islamic Science education not only enhances scientific literacy but also strengthens faith and nurtures students to become morally upright individuals.

2. **Implikasi Integrasi Sains dan Agama Terhadap Pendidikan Islam** (Putra et al., 2023)

This research aims to promote the integration of science and religion within Islamic education. Employing a qualitative approach, the study seeks to explore and explain how the integration of these two domains is manifested in Islamic educational contexts. The data collection method used is library research, which involves gathering information and references from the Qur'an, Hadith, academic books, scientific journals, and other relevant and credible sources to support the analysis. The findings reveal several key implications of Islamic education in the development of science, namely: Islamic creed (aqidah) serves as the foundational basis for scientific inquiry, Islamic law (sharia) functions as the ethical framework for the application of science, and Islamic education plays a vital role in addressing the potential negative impacts of science by implementing: Amar ma'ruf (promoting good), Nahi munkar (preventing wrongdoing), and Strengthening faith in Allah.

3. **Integrasi Islam dan Sains dalam Kurikulum Program Studi Pendidikan Guru MI Berbasis KKNI** (Fauzan, 2017)

Change is a constant and inevitable aspect of life. Without change, stagnation occurs, and life fails to progress in accordance with the evolving times. The transformation of IAIN (State Institute for Islamic Studies) into UIN (State Islamic University) represents an effort to reform the curriculum, methodologies, and learning environments—shifting from traditional (orthodox) approaches toward more rational, professional, and modern ones, aligned with the advancement of science and technology. Despite these developments, the institution continues to preserve its distinctive Islamic and Indonesian identity as a core characteristic. In the context of the Primary School Teacher Education Program (PGMI), the integration of Islam and science within the curriculum remains limited to the inclusion of separate Islamic and scientific courses, such as Islamic Studies, Islam and Science, Fiqh, and Basic Mathematics. The atmosphere of integration is more evident in the academic culture, such as the Islamic dress code observed by female students and the classroom tradition that requires both lecturers and students to begin each session with Qur'anic recitation (tadarrus).

METHOD

A. Research Approach and Type

This research uses a qualitative approach with a case study design. This approach was chosen because the study aims to deeply explore the process of integrating science and Islamic values in teaching practices within a pesantren-based school. The case study was selected as the research focuses on a specific location and object, namely SMP Miftakhurrosyidin Temanggung, which has a unique characteristic

as a school that integrates general education (science) with traditional Islamic education. According to Creswell (2015), a case study is suitable for exploring complex and contextual phenomena in real-life settings. The research was conducted at SMP Miftakhurrosyidin, located in Temanggung District, Central Java, Indonesia. This school operates under a pesantren (Islamic boarding school) system, with flagship programs such as Tahfidzul Qur'an and classical Islamic text studies (Kitab Kuning), while also implementing the national curriculum. The study took place in April 2025, including activities such as observation, interviews, documentation, and data analysis.

B. Data Sources and Data Collection Techniques

1. Data Sources

a. Primary data: obtained directly from informants through interviews and observations, including science teachers, religious teachers, the principal, and students.
b. Secondary data: collected from school documents, curricula, syllabi, teaching materials, and records of relevant school activities.

2. Data Collection Techniques

a. Participant Observation: The researcher was directly involved in the school environment to observe learning processes, teacher-student interactions, and classroom atmospheres reflecting the integration of Islamic values and science. In-depth Interviews: Semi-structured interviews were conducted with key informants—science teachers, Islamic studies teachers, the school principal, and several students—to explore their perceptions, strategies, and experiences in implementing knowledge integration.
b. Document Study: Documents such as lesson plans (RPP), syllabi, textbooks, schedules of religious activities, and learning records were analyzed to support the observation and interview data.

C. Data Analysis Techniques

Data were analyzed using descriptive qualitative methods following the model of Miles and Huberman (1994), which includes the following steps:

1. Data Reduction : Selecting and simplifying raw data collected in the field to make it more meaningful and aligned with the research focus.
2. Data Display : Organizing data systematically in the form of narrative descriptions, interview excerpts, tables, or matrices for easier understanding and interpretation.
3. Conclusion Drawing and Verification: Analyzing the presented data to identify patterns, relationships between phenomena, and deeper meanings related to the integration of science and Islam.

D. Data Validity

To ensure data validity, triangulation techniques were used:

1. Source triangulation – comparing data from different informants.
2. Technique triangulation – comparing results from observation, interviews, and documentation.
3. Member check – confirming interview results with the informants to ensure data accuracy.
4. Peer debriefing – discussing findings with colleagues or academic advisors to obtain scientific validation.

E. Research Subjects

Subjects were selected purposively, based on specific criteria relevant to the research focus. The subjects included:

1. Two science subject teachers (IPA)
2. Two religious teachers (PAI and Kitab Kuning instructors)
3. One school principal
4. Four to six students from grades VII to IX

F. Research Ethics

In conducting the research, the researcher followed ethical principles, including:

1. Obtaining official permission from the school prior to data collection
2. Explaining the research objectives to informants and seeking informed consent
3. Maintaining the confidentiality of informants' identities and sensitive data
4. Avoiding manipulation of data for personal or academic gain

FINDINGS

A. Integration of Knowledge from an Islamic Perspective

In Islam, knowledge is considered one of the most vital aspects of human life. The Islamic worldview does not recognize a dichotomy between religious sciences (al-'ulūm al-dīniyyah) and secular sciences (al-'ulūm al-dunyāwiyyah), as both originate from divine revelation and human reason, which are blessings from Allah SWT. Knowledge in Islam holds the value of worship, provided it is pursued within the correct framework and with the intention of seeking Allah's pleasure. Thus, integrating knowledge is an inherent principle within Islamic teachings In the history of classical Islamic civilization, there was no separation between scholars of religion and scientists. Figures such as Ibn Sina (medicine and philosophy), Al-Farabi (logic and music), and Al-Khawarizmi (mathematics and astronomy) exemplify scholar-scientists who merged religious and scientific knowledge into a unified epistemology. They viewed natural phenomena as ayat kauniyyah (signs of Allah's power in the universe), which

could be studied to cultivate reverence and faith. In the modern context, the integration of knowledge in education becomes increasingly significant as a response to the fragmentation of knowledge caused by secularism in Western education systems. Secularism has separated science from religion, relegating religion to the private domain while science is placed in the public domain and treated as value-neutral. Contemporary Islamic education seeks to rebuild a holistic paradigm in which all knowledge is ultimately rooted in divine revelation or Allah's creation and must be studied through the lens of tawhid (Muhaimin, 2009).

B. Traditional Islamic Education: Values and Philosophy

Traditional Islamic education—particularly in the form of pesantren (Islamic boarding schools)—has long served as a center for both intellectual and character development in the Muslim world, especially in Indonesia. Pesantren education is not only concerned with teaching classical Islamic texts (kitab kuning), but also emphasizes character building, discipline, and independence. The educational philosophy is centered on ta'dib (the cultivation of proper conduct), rather than merely ta'lim (the transfer of knowledge). Core values such as sincerity, simplicity, respect for teachers, and spirituality are deeply embedded in the pesantren system. The curriculum strongly emphasizes tarbiyah ruhaniyyah—the nurturing of the soul—through daily worship, religious study circles, and regular remembrance (dhikr). These values continue to be upheld and are a defining characteristic of pesantren-based Islamic education (Zarkasyi, 2005). However, challenges arise when pesantren must align with the national curriculum, which often prioritizes cognitive achievement and academic performance. Therefore, it becomes necessary to adopt an approach that integrates traditional Islamic values with contemporary needs, including mastery of science and technology. This forms the basis for the urgency of integrating traditional Islamic education with scientific curricula.

C. Concepts and Strategies for Integrating Science and Islam in Education

Integrating science and Islam in education goes beyond simply referencing Qur'anic verses within science lessons. True integration requires a unified paradigm, a curriculum aligned with tawhid-based values, and teaching methods that reflect a holistic approach.

According to Suyadi (2015), there are three primary forms of knowledge integration in Islamic education:

1. Substantial Integration: Embedding Islamic values within the subject matter of science. For instance, while learning about the circulatory system, students are invited to marvel at Allah's greatness in creating the human body.

2. Methodological Integration: Designing teaching methods that reflect Islamic principles—such as honesty in experiments, appreciation of God's creations, and fostering trust in Allah after exerting effort.

3. Contextual Integration: Connecting lessons to relevant religious and social phenomena in students' daily lives.

At the secondary school level, teachers play a central role in bridging science and religion. They are expected not only to master their subject matter but also to possess strong Islamic insight. Scientific inquiry-based learning can be complemented by religious understanding through tafaqquh, forming a synthesis that shapes students to be both critical and spiritually grounded.

D. Practical Integration in Pesantren-Based Schools

Pesantren-based schools, such as SMP Miftakhurrosyidin Temanggung, hold a strategic position in pioneering the integration of knowledge. With flagship programs like Qur'an memorization (Tahfidzul Qur'an) and the study of Kitab Kuning, students receive deep spiritual formation. At the same time, the school adheres to the national curriculum that includes science and mathematics. The religious environment—marked by congregational prayers, routine wirid, and Islamic dress codes—provides a strong foundation for building a faith-oriented learning atmosphere. The challenge lies in how science teachers creatively incorporate these values into the learning process in a natural and meaningful way. Research by Rahman (2020) in several integrated Islamic schools found that knowledge integration is most effective when general subject teachers collaborate with religious educators and when the institution supports this effort through training, integrative curriculum design, and values-based assessment.

E. Relevance of Theoretical Review to the Study

This theoretical review provides the conceptual foundation for understanding how science and Islamic education can be integrated in pesantren-based schools. The theory of knowledge integration emphasizes the importance of a unified paradigm, while the traditional Islamic education framework contributes spiritual and ethical values. The integrative learning strategies proposed by scholars serve as a guideline for examining the learning practices at SMP Miftakhurrosyidin.

Hence, these theories will serve as analytical tools in exploring the practices, strategies, and challenges of knowledge integration at the school, as well as in formulating the most appropriate, applicable, and context-sensitive approaches within the pesantren educational culture.

DISCUSSION

A. Description of the Integration Process of Science and Islam at SMP Miftakhurrosyidin Temanggung

SMP Miftakhurrosyidin Temanggung is a pesantren-based school that integrates Islamic religious education with the national curriculum, including science subjects. This integration is reflected in various aspects of the school's learning practices. The integration process involves several key elements:

1. Holistic Approach to Learning
   At SMP Miftakhurrosyidin, both religious and science subjects are taught using complementary approaches. For example, in Natural Sciences (IPA), students not only learn scientific concepts but are also guided to understand the connection between natural phenomena and Qur'anic verses. When studying the circulatory system, the teacher explains the perfection of the human body as Allah's creation, deepening students' sense of gratitude and faith.
2. Strengthening of Character and Spirituality
   Beyond formal learning, the school emphasizes character development through religious activities such as Qur'an memorization (Tahfidzul Qur'an) and classical Islamic studies (Kitab Kuning). These activities deepen students' understanding of Islamic values that are relevant to everyday life, including their engagement with science and technology.
3. Collaboration Between Science and Religious Teachers
   As part of the integration strategy, the school facilitates communication and collaboration between science and religious teachers. Interviews revealed that joint discussions are often held to align science material with Islamic teachings. This collaboration allows teachers to complement one another and provide broader perspectives to students.
4. Student Engagement in Scientific and Religious Development
   The integration process also involves students in various scientific and religious activities, such as science competitions held in the pesantren and discussions on the wonders of God's creation. Students are encouraged to evaluate scientific findings through a spiritual lens, being taught that science does not contradict religion, but can instead serve as a means to draw closer to God.

B. The Role of Teachers in the Integration of Science and Islam

Teachers at SMP Miftakhurrosyidin play a crucial role in integrating science with Islamic teachings. Based on interviews with science and Islamic studies teachers, they share a common understanding of the importance of teaching science within an Islamic framework. For instance, in lessons about the human digestive system, science teachers not only explain the biological processes but also relate them to Qur'anic verses about God's power in designing the human body. However, challenges remain in implementing this integration, such as limited instructional time, which makes it difficult to deeply explore the connections between scientific theories and religious principles.

C. Alignment of the Integration Process with Existing Theories

The integration of science and religion at SMP Miftakhurrosyidin aligns with the theories discussed in Chapter II, such as the integration theory proposed by Suyadi (2015). The integration includes:

1. Substantial integration, which connects science material with Islamic values; and
2. Methodological integration, which develops teaching methods reflecting Islamic principles.
3. The findings indicate that the approach used at SMP Miftakhurrosyidin not only enhances students' understanding of science but also fosters a sense of gratitude and piety toward God. This supports the view that substantial integration can be effectively applied in pesantren-based schools, which emphasize both cognitive and spiritual development.

The integration process also resonates with Nasr's (1993) perspective that science and religion can go hand in hand when viewed through the lens of tawhid (divine unity). Natural phenomena studied in science can deepen reverence for God, aligning with Islamic teachings that regard the universe as God's creation.

D. Challenges in the Implementation of Integration

Despite the overall success of the integration process, several challenges remain. One major issue is the limited time to thoroughly address both scientific and religious aspects during lessons. For example, when teaching about the human body, not all teachers have enough time to connect scientific explanations with relevant Qur'anic verses, especially given their heavy teaching loads.

Another challenge arises from the national curriculum, which does not always provide adequate flexibility for integrating religious values into science education. As a result, science teachers must put in extra effort to adapt materials and methods to support science-Islam integration.

E. Strategies to Enhance Integration

To address these challenges, several strategies can be applied. First, schools can provide regular training for teachers on how to integrate science and religion into their lessons. Additionally, teachers can collaborate with religious educators to design more unified and supportive lesson plans across subjects. Project-based integrative learning can also serve as an effective alternative. For example, students might develop a model of the human circulatory system while also discussing how it reflects the greatness of Allah's creation.

CONCLUSION

Based on the research conducted at SMP Miftakhurrosyidin Temanggung, it can be concluded that the integration between science and Islamic education at this pesantren-based school is implemented fairly well. This integration is grounded in the principle that science and religion are not contradictory fields, but rather complementary aspects that can enhance students' understanding both scientifically and spiritually. The main conclusions drawn from this study are as follows:

1. Implementation of Integration in Learning, At SMP Miftakhurrosyidin, the integration of science and religion is carried out by linking scientific content with Islamic values. Science teachers not only deliver scientific concepts but also connect them with Islamic teachings—for example, by emphasizing that the universe and all scientific phenomena are signs of Allah's greatness.
2. The Role of Teachers in Integration, Teachers at SMP Miftakhurrosyidin play a crucial role in the success of this integration. They develop teaching methods that combine both fields and collaborate with one another to design learning materials that bridge science and religion. Nevertheless, challenges remain, especially limited time and space to explore both aspects in depth.
3. Limitations in Implementation, Although the integration process is running well, there are several obstacles in its implementation, including time constraints and a national curriculum that tends to separate science and religion. This forces teachers to exert extra effort to ensure that both aspects are properly integrated.
4. Support from Religious Activities, In addition to formal learning, religious activities such as Qur'an memorization (Tahfidzul Qur'an) and classical Islamic text study (Kitab Kuning) contribute to reinforcing Islamic values relevant to the teaching of science. These activities deepen students' understanding of the harmony between knowledge and faith. Overall, SMP Miftakhurrosyidin Temanggung has successfully implemented the integration of science and religion, although there are still challenges that require further attention from the school and curriculum developers.

As this study is limited to a single location, the findings are not easily generalizable. It merely describes the phenomenon of science-religion integration at SMP Miftakhurrosyidin Temanggung and cannot be fully applied to other schools without considering their specific contexts. Therefore, future research is recommended in different schools and settings to examine whether similar patterns of integration can be found. Furthermore, this study has not explored in depth the perceptions of parents and the surrounding community regarding the importance of integrating science and religion. Future studies should consider including the perspectives of parents or local communities to provide a broader understanding of the acceptance and impact of such integration.

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