

Integrating Islamic Worldview for Sustainable Identity in Science Textbooks in Indonesia

Bahrum Subagiya^{1*}, Sofyan Sauri², Budi Handrianto³

^{1,3}Universitas Ibn Khaldun Bogor, Indonesia

²Universitas Pendidikan Indonesia

Corresponding Author: Bahrum Subagiya: bahrum.subagiya@uika-bogor.ac.id

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ABSTRACT

Indonesia has a majority Muslim population and has challenges maintaining and strengthening Islamic identity and values in globalization and Western cultural influences. Western influences enter the education sector, especially science education, primarily through textbooks. Science textbooks in Indonesia are often based on Western science paradigms rooted in a naturalistic or materialistic worldview, which contradicts the Islamic worldview. This article explores the Islamic worldview in Basic Natural Science textbooks to strengthen the identity and sustainability of Islamic values in Indonesia. Incorporating the Islamic worldview in science education can provide a holistic and integrated approach to learning, aligning scientific knowledge with Islamic teachings and principles. Although not comprehensive, the Islamic worldview is present in Indonesia's Basic Natural Science textbooks. Steps to strengthen Islamic identity and values in science learning are carried out by Emphasis on understanding the creation of the universe by Allah, integration of moral and ethical values in the context of science, introduction to the contributions of Muslim scientists in the history of science, explaining natural phenomena in the perspective of the Islamic worldview, and correcting science concepts that are not following the Islamic worldview.

INTRODUCTION

Islam is the majority religion in Indonesia, with more than 86% of the population claiming to be Muslim.(Bayu, 2022) However, there is a growing concern regarding the erosion of Islamic values among the younger generation, especially in the face of globalization and Western cultural influences. This erosion is evident in science education, where teaching scientific concepts ignores the Islamic perspective.(Niyozov & Memon, 2011)

A significant challenge in science education in Indonesia is the spread of a naturalistic worldview, which often leads to an atheistic outlook. Atheism, based on a naturalistic or materialistic worldview, rejects the existence of God and anything supernatural.(Walters, 2010) In this case, a naturalistic worldview interprets all natural phenomena exclusively through the lens of materialism, leaving the possibility of the supernatural open. This view has implications for scientific practices that are based on atheistic assumptions. Even a scientist like J. B. S. Haldane admitted that when he conducted experiments, he assumed that no supernatural entity would interfere with the course of the experiment so that he could be categorized as an atheist in the context of his experiments.(Baker & Goetz, 2011)

LITERATURE REVIEW

Islam is the majority religion in Indonesia, with more than 86% of the population claiming to be Muslim.(Bayu, 2022) However, there is a growing concern regarding the erosion of Islamic values among the younger generation, especially in the face of globalization and Western cultural influences. This erosion is evident in science education, where teaching scientific concepts ignores the Islamic perspective.(Niyozov & Memon, 2011)

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The importance of Islamic worldview-based science education in Muslim communities arises from the realization that using a science paradigm rooted in the West and based on a naturalistic worldview is contrary to Indonesia's national education goals. According to the National Education System Law No. 20 of 2003, one of the goals of national education is to produce a generation that is faithful and devoted to God Almighty.(Law of the Republic of Indonesia number 20 of 2003 on the national education system, 2023) Therefore, science education that integrates the Islamic worldview in its teaching is essential to ensure that students develop a solid scientific understanding and defend Islamic values. Thus, Islamic worldview-based science education can help maintain

Islamic identity and values amidst the challenges of globalization and Western cultural influences.

Syed Muhammad Naquib al-Attas (1995) uses the term Islamic worldview with *Ru'yah al-Islâm li al-wujûd*. There are two key words that al-Attas takes seriously: "*ru'yah*" and "*al-wujûd*". The word *ru'yah* has a broader range than other words such as *nazariyah*, *mabda'* or *tasawwur*. The word *ru'yah* represents an understanding not only based on philosophical speculation formulated from the world of senses and sensory experience but also includes the metaphysical, unreachable by the senses and reason, such as revelation (*khobar shâdiq*) and intuition. The word *ru'yah* also contains the principle of *tauhîdi*, which unites the physical and metaphysical, sacred and profane, reality (*wâqi'*) and truth (*haq*), then the word "view" in the term worldview gets a perfect meaning as *ru'yah*.

The word "*wujûd*" or reality is deliberately chosen to leave the phrase *kawn* and *dunya* to mean 'world' in the term worldview. For al-Attas, the word *kawn* or *dunya* is only limited to the sensory world or the world of created things. In contrast, the word *wujûd* implies the existence of aspects of the empirical world and the non-empirical world, the sensed and the non-sensed. For al-Attas, the hierarchy of being from the lowest is the physical realm, and the peak is the Absolute Being, namely the Reality of God. (Zarkasyi et al., 2019) Not only that, all existing empirical and non-empirical realities depend on Absolute Reality. Therefore, al-Attas views that the central orientation of the human worldview is the concept of God (Khakim et al., 2020).

According to al-Attas' view, Islam also has a view of nature that is different from the worldview of other civilizations. The Islamic worldview is not limited to thoughts about the physical realm and human involvement in history, society, politics and culture. The Islamic worldview is also derived from something other than philosophical speculations formulated from observations of sensory experience data because what is seen by both eyes is limited to the world that can be seen. The Islamic worldview also does not dichotomize between the sacred and the profane. The Islamic worldview encompasses both the world and the afterlife, where the worldly aspect must be connected profoundly to the afterlife, and the afterlife has the last and final significance without negating the importance of the material aspect. (Al-Attas, 1995) Al-Attas sees that the Islamic worldview has many elements and is a series of concepts that are not separate. The most important are concepts about the nature of God, revelation (al-Qur'an), creation, human psychology, science, religion, freedom, values and virtues, happiness, and so on (Zarkasyi, 2013).

Integrating the Islamic worldview in primary science textbooks can help bridge the gap between scientific knowledge and Islamic teachings. By incorporating Islamic values, principles and ethical considerations into science education, students can better understand and appreciate the compatibility between science and Islam. This integration can strengthen their Islamic identity and provide a solid foundation for integrating Islamic values into their personal and professional lives (Yusuf, 2023).

Integrating an Islamic worldview in science education can help students develop a strong sense of Islamic identity by showing them how scientific knowledge is aligned with Islamic teachings. This integration can foster a sense

of pride in the legacy of Muslim scientists and strengthen their commitment to Islamic values. By incorporating Islamic values in science education, students can also learn about the ethical and moral considerations of scientific research and technological advancement. This integration can help them make informed decisions and become responsible societal contributors (Sahin, 2018).

One of the main reasons why integrating the Islamic worldview in science textbooks is essential is to provide a holistic education that aligns with Islamic principles. Education is not only about acquiring knowledge but also about shaping an individual's worldview and values. By integrating Islamic perspectives into science textbooks, students are exposed to a comprehensive understanding of the subject, combining scientific concepts and Islamic teachings. This integration allows students to develop a more balanced and holistic understanding of the world, where faith and reason are not seen as contradictory but complementary.

This research will focus on the Indonesian context and contribute to developing education based on Islamic worldviews, especially in science textbooks. By considering various studies related to the integration of Islamic worldviews in education and the importance of the sustainability of Islamic identity in Indonesia, this research seeks to make a relevant and significant contribution to education development in Indonesia.

METHODOLOGY

This research adopts a qualitative approach focusing on Robert Weber's content analysis (Weber, 1990). This approach was chosen because it is suitable for exploring and interpreting the Islamic worldview embedded in the Basic Natural Science textbook texts. In this context, content analysis will allow us to identify and categorize the Islamic worldview concepts integrated into the textbook materials. The main object of research is Indonesian Basic Natural Science textbooks that have been used in Indonesian universities. Specifically, the study will focus on Basic Natural Science textbooks by a Muslim, Maskoeri Jasin.

The research data is obtained through documentation studies. The analysis will focus on text content that illustrates the integration of the Islamic worldview, such as science concepts applied within the framework of the Islamic worldview. Data analysis will be conducted using the content analysis method, referring to the guidelines developed by Robert Weber. The analysis steps include organizing the data, interpreting the concepts of the Islamic worldview, drawing conclusions related to the integration of Islamic values in the textbook, and formulating relevant findings. This research explores how integrating the Islamic worldview in science textbooks can provide sustainable identity and Islamic values in Indonesian education.

RESEARCH RESULT

Maskoeri Jasin's Basic Natural Science book contains seven major chapters consisting of introductory chapters, matter and energy, the universe and solar system, the biosphere and living things, humans and their environment, the role and impact of natural science and technology, and finally contains natural science and future technology with human survival. In his book, the author has tried to introduce and understand the principles and values of the Islamic

Worldview. He did not let go of the existence of God in every discussion of science. He said that God created humans, and God created everything. In the material "Humans and their Environment", he said that God has made nature with its contents for humans.

The author also discussed the role and contribution of Muslim scientists in developing science. He introduced Avicenna (Ibn-Sina) as an expert in science, especially in medical science, and a philosopher. Al-Biruni is an original and contemporary expert in science. He also listed several other figures such as Al-Khawarizzini, Al-Farghani, Al-Batani, Abul Weva, Omar Khayam and Zarqali, Al-Kindi, Al Farabi, Al-Gazali, and Averoes (Ibn-Rushd). Among the merits of Muslim scientists is that in the ninth and eleventh centuries, all Greek science and philosophy were translated and developed in Arabic. After that, they were gradually translated into Latin and some Hebrew (Jasin, 2019).

The author also clarified views that are incompatible with the Islamic Worldview. When discussing natural science philosophy, he explained that Indonesian scientists should be able to bridge between the philosophy of vitalism and mechanism, for example, in answering the question, "How or when does the law of nature occur in this universe?" According to the author, the only answer is, "The only answer is," he said. According to the author, the only solution is that God created it. From the starting point of the philosophy of vitalism, the following process is according to the philosophy of mechanism: natural law. In this case, natural law is the same as God's law."

The steps of applying the concept of Islamic Worldview in the book Basic Natural Science by Maskoeri Jasin can be seen from the following points: (1) Emphasis on understanding the creation of the universe by Allah S.W.T. (2) Integration of moral and ethical values in the context of science (3) Introduction to the contribution of Muslim scientists in the history of science (4) Islamic worldview perspective in explaining natural phenomena (5) Correcting science concepts that are not following the Islamic worldview.

Emphasis on understanding the creation of the universe by God

Maskoeri Jasin's Basic Natural Science book describes the concept of the creation of the universe by God as part of the introduction and discussion of the universe and solar system. This concept reflects the Islamic worldview that God created the universe as a sign of His greatness. God has created all His creatures, what is visible to humans in this universe. God knows every condition of His creatures; nothing is alpha from His supervision.

In the book, the author includes the word God as the Creator and Sustainer of this nature. The existence of God as the Creator is internalized in various chapters in the book, such as when discussing matter and energy, the universe and the solar system, the biosphere and living things, and humans and their environment. In almost every chapter, the author relates the existence of God. The existence of the word God in the book shows and emphasizes the existence of Allah as the Creator and sustainer of nature. This integration is a view of tawhid in scientific thought in Islamic civilization. The relationship between science and tawhid has developed over time and in various Islamic cultural contexts that must be preserved (Bakar, 1991).

The emphasis on understanding the creation of the universe by God will have implications in various aspects of life, including science. Such an understanding of tawhid can shape a different framework and worldview in the context of science and help steer science towards a deeper understanding of the universe and the wisdom of creation. This understanding can also form an ethical solid basis in science and guide students' actions in running their lives (Choudhury, 2019).

Integration of moral and ethical values in the context of science

The concept of Islamic worldview in Maskoeri Jasin's Basic Natural Science textbook links science with moral and ethical values taught in Islam. In the discussion of "Scientific Attitudes", for example, the author writes about several attitudes that align with Islamic teachings' values, namely curiosity, willingness to learn, acceptance of the truth, honesty, openness, tolerance, optimism, courage, and creativity. These values are something fundamental that exists in every Muslim who studies. By integrating Islamic moral and ethical values in science, it is hoped that it will give birth to good human beings, namely humans responsible for protecting and caring for nature. In addition, the cultivation of moral and ethical values can give birth to humans responsible for the development of technology from the results of their science so that it can benefit many people.

In principle, the internalization of Islamic values in the learning process makes everything Allah gives a reference in understanding the material and the process of obtaining knowledge. Therefore, the learning process related to science is said to contain Islamic values if the learning phase starts from understanding the order of His creation, understanding beauty, and linking order and beauty with awareness. Islam does not only regulate human relationships with God but also human relationships with fellow creatures (Idris et al., 2022).

Integrating moral and ethical values in the implementation of science learning is carried out through introductory, core (exploration, elaboration, confirmation), and closing activities. The integration of science learning with character values is expected so that students, in addition to showing science character behavior, also show character behavior that is universally accepted. In addition, the integration of moral and ethical values is also following the objectives of national education in Indonesia, which is to develop the potential of students to become human beings who are faithful and devoted to God, have noble character, healthy, knowledgeable, capable, creative, independent and become democratic and responsible citizens (Yusmarti, 2017).

Introduction to the contributions of Muslim scientists in the history of science

Maskoeri Jasin's Basic Natural Science book contains information about the contributions of Muslim scientists in the development of science. It aims to illustrate the importance of Islamic intellectual heritage in science. The book introduces Muslim scientists and their discoveries, such as Ibn Sina, Al-Biruni, Al-Khwarizmi, Al-Farghani, Al-Batani, Abul Weva, Omar Khayam, Zarqali, Al-Kindi, Al Farabi, Al-Gazali, and Ibn-Rushd. This introduction to the contributions of Muslim scientists is essential because it can raise students'

awareness of the critical role Muslim scientists play in developing science. Muslim scientists have contributed to science and technology from the 8th century to the 16th century (Afridi, 2013). Islamic scholars have contributed original works to various fields of science recognized by the West. They were inspired by the Islamic view of nature, namely that humans must "study nature to discover God and use nature for the benefit of mankind" (Faruqi, 2006).

An introduction to Muslim scientists and their contributions can also help students appreciate the intellectual legacy left by Muslims and see their gifts in a broader context. In addition, knowledge about Muslim scientists can also be a source of inspiration and motivation for students. They can see that Islam encourages the search for knowledge and promotes scientific thinking, boosting their interest in science and inspiring them to follow in the footsteps of early Muslim scientists.

Another benefit of this introduction in the Basic Natural Science book is that it helps broaden students' perspectives on the history of science. They not only learn about the contributions of Western scientists but also recognize the often-overlooked contributions of Muslim scientists. This helps students have a more comprehensive understanding of the development of science and a broader appreciation of the intellectual heritage of the Islamic world. In addition, recognizing the contributions of Muslim scientists also helps counter negative stereotypes or prejudices against Muslims. Students can see that Islam and science do not contradict each other but rather that there is continuity between the two. This introduction can help correct misperceptions or prejudices towards Islam and encourage dialogue and better understanding between cultures and religions.

Islamic worldview perspective in explaining natural phenomena

Maskoeri's book Basic Natural Science describes the Islamic worldview in explaining natural phenomena, such as the view of natural law or order in the universe that reflects God's power. Such an Islamic worldview perspective can help contextualize the understanding of natural phenomena within Islamic values, principles and teachings. This perspective also allows for a holistic interpretation of natural phenomena, exploring the scientific aspects of natural phenomena and paying attention to the spiritual, ethical and purposeful dimensions of life in an Islamic context. By engaging with the Islamic Worldview, students will be introduced to different ways of seeing and viewing science as an integral part of a broader worldview. This perspective helps avoid a narrow or limited view of science and provides a richer understanding of the relationship between the universe and its Creator.

The concept of nature is a key term in science, based on an Islamic view that can be used as a framework for developing science teaching. In Islam, science has a strong connection with religion as nature reflects the existence of the Creator. This concept is derived from analyzing several verses of the Qur'an as the primary source of Islamic teachings. Several principles can be drawn from this analysis: The visible realm is not the only realm; there is also a supernatural realm; nature is not merely material that has no sacred value but is an indication or symbol of the existence of God and His attributes, and the Qur'an and nature

are books of God that contain His messages, so they complement each other (Zarman, 2016).

Modern science based on naturalist, positivist, materialist, empiricist, modernist, agnostic or atheist views has led the world to a sustainable ecological crisis and a significant crisis of modern civilization. As Muslims, we embrace a perspective of reality, nature and life based on the belief in the absolute oneness of Allah as the Creator, Sustainer and Ruler of all that exists. It is this kind of worldview that is needed in studying natural phenomena (Hassan, 2016).

Correcting scientific concepts that are outside the Islamic Worldview

The author also clarifies views that do not follow the Islamic Worldview. When discussing natural science philosophy, the author explains that Indonesian scientists should be able to bridge between the philosophy of vitalism and mechanism, for example, in answering the question, "How or when does the law of nature occur in this universe?" The only answer is: "God created it." From this starting point, the philosophy of vitalism begins, while the following process is according to the philosophy of mechanism, namely natural law. In this case, natural law is the same as God's law. Although the initial answer is procedurally unscientific, the mechanism that is considered scientific also cannot determine when the natural law comes into effect, and, except for that, once again, we assume that the natural law is also God's law.

The author's view on nature aligns with the Islamic Worldview. He views the universe as created by God. Nature does not happen and runs by itself. He believes that nature is temporary and will end. His view is strongly influenced by theism, which is the basis of his argument, namely Islam.

Several principles and steps need to be considered in making corrections to scientific concepts that are not under the Islamic Worldview. That can be done:

1. There needs to be an in-depth study and analysis of scientific ideas incompatible with the Islamic Worldview. This needs to involve people who comprehensively understand Islam's teachings and its principles relevant to the scientific concepts being debated.
2. In making corrections, it is necessary to use accurate and reliable references and sources in compiling arguments supporting the scientific concept's revision.
3. Discussions and dialogue with scholars, ulema and experts with deep knowledge and understanding of Islam and science are needed. Discussion and dialogue with them can help gain a broader and more accurate perspective.
4. It presents clear explanations and clarifications by providing arguments and thoughts that support the correct Islamic view and explaining why the proposed concepts are incompatible with Islamic teachings.
5. In correcting scientific ideas, it is significant to prioritize Islamic principles, which include the oneness of God, understanding of the creation of the universe, the laws of God, and moral values in Islam.

Scientific concepts contradicting these principles must be corrected and adjusted to fit the Islamic worldview.

The result section is provided before the discussion section. Each section stands alone as a subtitle. The result and discussion should be written in not less than 60% of the entire body of the manuscript.

CONCLUSION

Maskoeri Jasin's Basic Natural Science textbook contains several concepts of Islamic worldview in his book. The Islamic worldview in the book includes the concepts of God, science, nature and man. The concepts of the Islamic Worldview need to be clarified and reinforced with steps: Emphasis on understanding the creation of the universe by God, integration of moral and ethical values in the context of science, Introduction to the contribution of Muslim scientists in the history of science, explaining natural phenomena in the perspective of the Islamic worldview and correcting scientific concepts that are not following the Islamic worldview. These steps can build the sustainability of the Islamic worldview in Muslim students in Indonesia. They can learn science while understanding and maintaining their Islamic values.

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