JISEI: Journal of Islamic Studies and Educational Innovation
Vol. 01 No. 01 2025.

Qur'anic Persfective on Science : Implications for Islamic Education Curriculum

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ARTICLE INFO

Keywords:

Al-Quran,
Science
Islamic Education Curriculum,
Integration of Science

Article history:

Received 2025-01-05
Revised 2025-02-10
Accepted 2025-03-25

ABSTRACT

The holy book of the Qur'an as the main source of Islamic teachings contains many verses related to science and knowledge. The perspective of the Qur'an on science does not only emphasize the empirical aspect, but also the integration of divine values in the pursuit of knowledge. This article aims to explore the relationship between the Qur'an and science and its implications in the development of Islamic education curriculum. Using a qualitative approach based on literature studies, this article analyzes the verses of the Qur'an related to science and how these concepts can be implemented in Islamic education. The results of the study show that the integration of science and Islamic values in the education curriculum can form a holistic paradigm that includes aspects of rationality, ethics, and spirituality. Thus, the Islamic education curriculum needs to accommodate an integrative approach that connects modern science with Islamic values in order to produce a generation that is faithful, knowledgeable and has noble character.

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1. INTRODUCTION

The development of science and technology today brings major changes in various aspects of human life **(Budiman, 2017).** The industrial revolution, advances in the biotechnology sector, artificial intelligence, and even space exploration are proof of how science has shaped modern civilization **(Isti'ana, 2024).** However, this change also presents and brings great challenges for Muslims, especially in integrating science with Islamic values in education **(Fahmi & Rohman, 2021)**. Islam as a holistic religion places knowledge as an integral part of life **(Yahuda, Susanto, Widodo, & Kolis, 2024).** The Qur'an often encourages humans to think, reflect and explore knowledge **(Susanto, Yahuda, Basuki, &**

Kadir, 2023). The verses that talk about the creator of the universe, natural phenomena and the laws that govern them show that Islam highly values science.

In the context of Islamic education, there are still several challenges in aligning modern science with Islamic values **(Parhan, Syafitri, Rahmananda, & Aurora, 2022).** Many Islamic educational institutions still adopt a secular model that separates religious knowledge from general knowledge. This causes a dichotomy in the understanding of knowledge, where knowledge is considered as something that stands alone without any connection to revelation **(Hartati, Fernadi, & Utama, 2022).** Therefore, a comprehensive approach is needed in compiling an Islamic education curriculum that can accommodate the development of modern science without abandoning basic Islamic values.

The offer of this study has been widely developed by several scholars. Here are some studies that discuss the integration of science and Islam in education. First, a journal written by Daryanto and Ernawati that explains how science in Islam developed rapidly during the golden age of Islam, but experienced a decline due to colonialism and the adoption of a secular education model (**Daryanto & Ernawati, 2024**). The two journals written by Susanti and Riskiyah highlight the analysis of the importance of the Islamization of science as an effort to harmonize science with Islamic teachings **(Susanti & Riskiyah, 2022).** The three journals written by Prasetio and Ahmad examine the need to emphasize an integrative approach in Islamic education, where religious knowledge and general knowledge are not separated but are studied in one unified Islamic epistemology **(Prasetio & Ahmad, 2020).** Based on the various previous studies above, there is harmony with this research, namely that it is related to studying science and Islam, but no one has studied both and combined it with the Islamic education curriculum. To complete this study, this research will examine science and the Koran combined with the Islamic education curriculum.

This research was conducted using qualitative methods and analyzing the curriculum based on literature studies **(Huberman & Jhonny, 2014)** as well as ancient books and new books that are trusted such as interpretations from various famous or well-known authors such as Al-Maraghi and As-Suyuthii & Al-Mahali as well as academic books and scientific journals on Islamic education curriculum from different countries **(Al-Maraghi, 1946; As-Suyuthi & Al-Mahali, 2017; Darwazah, 1963; Shiahb, 2005),** Data analysis was conducted using a thematic approach in which researchers identified key patterns and concepts in the integration of science and Islam **(Sugiyono, 2016)**. In addition, this research study also used an interview method with several informants including academics and

practitioners of Islamic religious education to gain an effective empirical understanding of the challenges and opportunities in integrating science and Islam in the Islamic religious education curriculum.

This study offers three new innovations and contributions to the discourse on the integration of science and Islam, including the following: first, it initiates a curriculum model based on the integration of science and Islamic values that can be implemented in Islamic educational institutions; second, it uses scientific interpretation to analyze the verses of the Qur'an related to natural phenomena and their implications for the Islamic education curriculum; third, it involves the views of academics and education practitioners in designing a synergistic curriculum. Thus, this study not only provides a conceptual understanding of the integration of Science and Islam, but also proposes practical solutions in implementing a more comprehensive and relevant Islamic education curriculum with the current conditions.

2. METHODS

This research uses a qualitative approach with a literature study method and analysis of the curriculum **(Mattehew B. Miles, A Michael Huberman, 2014).** The data in this study were collected from several credible sources which include classical books, academic literature, curriculum documents, and scientific journals which are relevant to the Islamic education curriculum in various countries.

The main sources in this research include tafsirs that have long been references in Islamic studies, such as al-Maraghi's tafsir **(Al-Maraghi, 1946)** tafsir jalalain **(Al-Mahali & Jalaluddin Abdur Rahman ibn Abi Bakr al-Suyuti, 2017)** and other tafsir books such as the works of Darwazah and Quraish Shihab **(Darwazah, 1963; Shiahb, 2005).** In addition, this study also utilizes more contemporary academic books that discuss the development of Islamic education curriculum and the integration of science in Islamic education. By reviewing various sources, this study attempts to provide a comprehensive picture of the various concepts of integration of science and Islam that have developed in the Islamic education curriculum from time to time.

In analyzing the research data, this research uses a thematic approach as proposed by Sugiyono **(Sugiyono, 2016).** This approach allows researchers to identify key patterns and concepts in integration efforts **(Junaidi, Sileuw, & Faisal, 2023).** The thematic approach helps in compiling the main categories that are the focus of the study, such as the concept of Islamic epistemology in science.

3. FINDINGS AND DISCUSSION

3.1.The Qur'anic Perspective on Science

The Qur'an as the holy book of Muslims not only contains moral and spiritual teachings, but also includes many verses related to natural phenomena and science **(Afifah, Ayub, Sahidu, Menengah, & Negeri, 2020).** Several verses in the Qur'an explicitly describe scientific concepts that have only been understood by humans in the last few centuries. This shows that Islam and science are not two opposing entities, but rather complement each other in understanding the universe and the greatness of Allah SWT **(Yaqin, 2020)**. One example of a verse that reflects the relationship between the Qur'an and science is the word of Allah in the Qur'an, surah al-Anbiya verse 30 **(Mustofa, 2016)** which states that the sky and the earth were originally one entity which was then separated. This concept is in line with the Big Bang theory which states that the universe began with a big explosion which then formed galaxies, stars, and planets. This fact shows that science which has developed over time actually strengthens the truth of the revelation that was revealed more than 1400 years ago.

Apart from that, the Qur'an also explains the rain cycle in Q.S. an-Nur verse 43 **(Mustofa, 2016)** where Allah describes how clouds are formed, move to meet and produce rain. This explanation is in line with modern meteorological science which explains the process of condensation, cloud formation and rain that occurs due to differences in pressure and temperature in the atmosphere. This phenomenon not only proves that nature works with a regular system, but also reminds humans of the signs of the greatness of Allah SWT that are hidden in every aspect of life. More profoundly, the Qur'an also provides a detailed description of the development of the fetus in the mother's womb, as contained in Q.S. al-Mukminun verses 12-14 **(Mustofa, 2016)** where the verse explains in detail and comprehensively how humans were created from the essence of the earth, then became a drop of semen, a clot of blood, a lump of flesh until finally they were in the form of a perfect human being. Discoveries in modern embryology have proven that fetal development does occur in several stages as explained in the Qur'an **(Mustofa, 2016)**. This proves that divine revelation had previously revealed scientific facts before humans discovered them through research and experiments.

Islam views knowledge as a means to know the greatness of Allah SWT and improve human welfare. Therefore, every Muslim is encouraged to

seek knowledge and use it for the common good **(Fitriani, Heryana, Raihan, Lutfiah, & Darmalaksana, 2021)**. The Prophet Muhammad himself has said and emphasized in a hadith about the importance of knowledge and the effort to seek it. In Islam, knowledge is not only about understanding the universe but also about how knowledge is used with the right intention and directed towards the welfare of the people. Thus, there is no conflict between Islam and science. On the contrary, both can go hand in hand and complement each other. Science helps humans understand how nature works, while Islam gives meaning and purpose to the knowledge gained. In this perspective, knowledge is not just a tool for intellectual exploration, but also a bridge to get closer to Allah SWT. Therefore, Muslims need to continue to develop knowledge while adhering to religious values so that the knowledge they have brings benefits and blessings to all mankind.

3.2. Implications for the Education curriculum

3.2.1. Strengthening ethical and moral values in science

The importance of teaching the ethical and responsible use of science in the curriculum cannot be overstated. A good curriculum not only emphasizes mastery of science, but also educates students on how to use that science wisely and responsibly **(Santika, 2022)**. This is important to prevent the misuse of knowledge that can harm society. For example, in the field of information technology, knowledge of computer programming and cyber security is very useful. However, without understanding ethics, this knowledge can be misused for detrimental actions such as hacking or spreading malware **(Arifin, Salim, Muzakki, Suwarsito, & Arifudin, 2024)**. Therefore the curriculum must include ethics education in information technology, teaching students about the importance of protecting privacy and personal data.

In addition, in the field of biotechnology, knowledge about genetic engineering and molecular biology has great potential for innovation in the fields of medicine and agriculture. However, without proper ethical guidance, this science can be misused for detrimental purposes such as biological weapons or the creation of genetically engineered organisms that can damage the ecosystem **(Nurlatifah, Ahman, Machmud, 2021).** It is therefore important for biotechnology curricula to teach ethical principles in biotechnology research and applications as well as the impacts of misuse of this science. By teaching the ethical and responsible use of science, we can create a generation that is not only intelligent but

also has the integrity and commitment to use their science for good. This will help prevent the misuse of science that can harm society and the environment and create a more just and sustainable world for all.

3.2.2. Learning methods based on the Qur'an and Science

An integrative approach to teaching, especially through scientific interpretation, is a method that bridges modern science with Islamic teachings **(Wahyu, Susanto, & Deden, 2023)**. This approach seeks to harmonize scientific knowledge with the spiritual and ethical values taught in the Qur'an, creating a holistic and comprehensive educational foundation **(Yahuda, Susanto, Widodo, Kolis, & Abdillah, 2023).** so that scientific interpretation is an effort to interpret the verses of the Qur'an in the context of science. This does not mean changing the Qur'an to suit scientific findings, but also on the contrary seeing how modern science can enrich our understanding of divine knowledge **(Susanto & Nuhaa, 2023).**

An example of this approach is in the field of biology. The verses that mention the process of human creation from a drop of semen can be explained through an understanding of embryology. This teaches students that the Qur'an has provided guidance on the process of life long before modern scientific technology was discovered. This integrative approach also has implications for science where science taught in the context of Islamic teachings emphasizes the use of science for the benefit of humanity and the environment. So by integrating scientific interpretation into our curriculum we not only equip students with scientific knowledge but also build character based on spiritual and ethical values **(Susanto, 2024).** Of course, this will create a generation that is not only academically intelligent but also wise in using their knowledge for the common good and in accordance with Islamic teachings which emphasize balance between the world and the hereafter.

3.2.3. Research-based curriculum development

Research-based curriculum development is an approach that uses scientific research to design, implement and evaluate educational curricula. This approach aims to ensure that the curriculum used in schools and other educational institutions is based on empirical evidence and practices that have been proven effective **(Latifah, Yuberti, & Agestiana, 2020)**. First, the curriculum planning stage, research is used to identify students' learning needs and determine relevant and realistic learning objectives. Then, the implementation stage, research is used to

test the effectiveness of the designed curriculum. At this stage, students following the new curriculum show an increase in academic achievement.

In the final stage, evaluation and research are used to assess the overall success of the curriculum and its impact on students (**Arnolus Juantri E. Oktavianus, Lamhot Naibaho, & Djoys Anneke Rantung, 2023)**. So overall research-based development allows educational institutions to adopt a more systematic and evidence-based approach in educating students. This helps ensure that the curriculum used is not only relevant and effective but also adaptable to the latest changes and developments in education and students' learning needs.

4. CONCLUSION

The perspective of the Qur'an on science emphasizes that science is part of Islamic teachings that must be developed with an integrative approach. In the context of Islamic education, a curriculum that accommodates the integration of science and Islamic values can form a generation that has a balance of rationality, ethics and spiritual aspects. Therefore, the development of Islamic education curriculum needs to continue to innovate to ensure that science can be studied and applied in harmony with Islamic events.

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