

Islamic Education About the Integration of Science with the Al-Quran in the Teachings of Walisongo

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ABSTRACT

This study aims to examine the integration of science and the Qur'an in the teachings of the Walisongo, a theme that previous researchers have not explored. This study employs a qualitative method, utilizing a case study approach, along with text analysis of various primary and secondary sources. The results of the study show that the integration of science with the Qur'an by the Walisongo shows that religion and science complement each other. The approach they use in teaching this concept helps Javanese society to accept and understand Islam better. This study highlights the significance of the Walisongo's role in integrating religious teachings with science. Overall, this study provides new insights into the importance of an interdisciplinary approach in Islamic education. By combining science and religious teachings, the Walisongo has developed a relevant and applicable educational model that remains effective to this day. This finding also emphasizes that integrating science into Islamic teachings can be a solution to addressing contemporary challenges by prioritizing harmony between scientific knowledge and spiritual values.

Keywords: Islamic Education, Integration, Science, Al-Quran, Walisongo Teachings

INTRODUCTION

The Qur'an is the primary source of Islamic teachings and the foundational basis of Islamic education. The Qur'an serves as a guideline for Muslims in their daily lives (El-Syam, 2019). The Qur'an, as the primary and foundational source of Islamic teachings, instructs and encourages humans to utilize their minds to reflect on all of Allah SWT's creations, the events unfolding in society, and to derive wisdom from them (Suryadi, 2022). The Qur'an is included in a small number of holy books that have a profound and far-reaching influence on the human soul. This book is used by Muslims to validate behavior, justify social actions, support various aspirations, hold various hopes, and strengthen collective identity (Budi, 2022).

The Qur'an as a source of modern knowledge and science can be seen in the accuracy of its principles through an analysis of the first revelation to the Prophet Muhammad SAW, namely the letter 'al-Alaq 1-5 which can be used as a basic starting point for mastering science and technology in the Islamic world. Allah has ordered humans to diligently read, research, study and discuss their intellectual abilities. This letter stimulates human creativity to innovate, develop the quality of faith with the gift of reason and logic possessed by humans. The obligation to read and write (explore modern science by researching) is an integral part of Islam and its mastery, and

the success of the search with God's consent (Soleha & Adrian, 2015).

Studying the Qur'an involves building knowledge about the purpose of life reflected in the goals and achievements of education that are intended to be conveyed in the conception of educational goals so that they are oriented towards the formation of people with the development of various dimensions of life, the achievement of faith and piety, and the actualization of worship as a vital task (Asy'ari et al., 2022). The Qur'an, the holy book of Muslims, provides a foundation for science, ensuring scientific certainty. The interpretation of the Qur'an's verses regarding natural events continues to evolve. Science always plays a role in their search for new authentic knowledge (Mandalika et al., 2023).

This argument demonstrates that the Qur'an remains relevant to the times and places, as well as by Islamic teachings, whose educational patterns vary from one place to another. From the diverse educational patterns, it can be understood that the teaching patterns in a region embody the spirit of understanding the principles of the Qur'an, as taught by the Walisongo in Indonesia. The living conditions of the people in the archipelago, especially in Java, are closely related to local culture and Islamic teachings (Alif et al., 2020). The teachings of Walisongo at that time reflected the actualization of Islamic educational values, drawing on the Qur'an and considering the culture and science of the time, so that the wider community could accept his teachings.

Numerous studies have been conducted on the teachings of Walisongo, including those by Inayatillah et al. (2022). The results of their research show that the history of moderate Islam in Indonesia has historically shifted from an essential dimension to an authoritative dimension. The essential dimension encompasses moderate Islam, characterized by Wasathiyah Islamic values, with various persuasive approaches, beginning with the Sufis in Aceh, followed by the Walisongo in Java. Susanto's

research (2017), traces the leadership model of Walisongo which is considered successful in Islamizing Javanese society in a relatively short time and almost without conflict. According to him, based on the division of conventional leadership models, Walisongo's leadership can be categorized as transformational leadership, which has the characteristics of fostering a sense of trust, pride, loyalty, and respect within Javanese society.

Mardena & Bukhari (2019), highlighted how Walisongo preached to spread Islam in areas in Java. They are a symbol of the spread of Islam in Indonesia through new Islamic traditions such as Nyadran, with educational assimilation through Islamic boarding schools, assemblies and universities through langgar, juru, mosques and children's play areas, and through art and culture which are values, understandings, concepts, ideas, views and ideas that originate from Islamic teachings. Sabiq (2021), traced the syncretization of Sunan Kalijaga's teachings into a media for preaching that succeeded in attracting people's interest in embracing Islam. Sunan Kalijaga constructed a mosque that seamlessly integrated Islamic teachings with local culture. This is referred to by Khris (2020), as the Islamization of Java. Fandi Ahmad (2020), assessed Walisongo as a historical fact of Islam in the archipelago. They were able to spread Islam successfully because their teachings were flexible, allowing them to be easily accepted by society, a result of the maturity in transferring Sufism to preaching (Kasman, 2018).

All of the articles above have reviewed the figures of Walisongo as disseminators and educators for the people of the Archipelago, especially Java, employing various approaches and specific themes. However, none of them have reviewed the Integration of Science with the Qur'an in the Teachings of Walisongo. Therefore, the specifications of this study aim to reduce the research gap, analyze the data, and provide new findings that characterize the research. With this

argument, this article aims to provide a deeper understanding of the Integration of Science with the Qur'an in the Teachings of the Walisongo.

MATERIALS & METHODS

This study aims to analyze the extent to which the integration of scientific concepts in the Qur'an is applied in the teachings of the Wali Songo, especially Sunan Muria, Sunan Kalijaga, and Sunan Kudus, and its impact on Islamic preaching and education in society. This study employs a quantitative design, a research approach that aims to understand social, cultural, or human behavioral phenomena in depth (Newnham & Rothman, 2022). It also employs a case study approach, a qualitative research method that involves examining a single subject in depth. This is a way to understand complex issues in real-life situations (Jinasena et al., 2023), (Abdollahi et al., 2023), (Kishnani, 2022). The focus of the cases studied is the teachings of Sunan Muria, Sunan Kalijaga, and Sunan Kudus. Analysis of the text includes analysis of ancient manuscripts, oral traditions, and historical records (Baugh, 2023), (Kopf, 2024). This study examines how science, including astronomy, health, and ecology, is taught within a religious context.

RESULT AND DISCUSSION

The word science is a translation of "science" which comes from the Latin word "scire" which means "to know". In a narrow sense, science is defined as natural science, which is characterized by its quantitative and objective nature. Science in this case refers to a system for gaining knowledge that uses observations and experiments to describe and explain phenomena that occur in nature (Sastria, 2014), (Fatkhurohman & El Syam, 2023). "Science with the definition above is often referred to as pure science, to distinguish it from applied science, which is the application of science aimed at meeting human needs (Ramadhan et al., 2023). Science is typically classified into two categories: first, Natural Science,

and second, Social Science (Al-Anshary et al., 2023).

Some of Walisongo's contributions in the field of science and technology at that time enabled them to touch the hearts of the people, leading to their voluntary adoption of Islam. They introduced more efficient agricultural techniques, including improved irrigation systems. They helped farmers adopt more productive farming techniques and introduced new plants that were suitable for the local climate and soil conditions. They also introduced traditional health and healing practices. For example, Sunan Kalijaga was known to utilize herbs in medicine, which was a significant aspect of medical knowledge at that time (Wardani, 2023).

Wali Songo also contributed to the construction of mosques and other buildings by introducing new architectural techniques. For example, the Demak Mosque, founded by Sunan Kalijaga and other Wali Songo, combines elements of traditional Javanese architecture with Islamic elements (Abbas et al., 2023). They established Islamic boarding schools as centers of education, where religious knowledge and general knowledge were taught. In these Islamic boarding schools, students not only studied religion but also sciences such as mathematics, astronomy, and others. The introduction of new technologies was also a significant contribution of the Wali Songo. For example, Sunan Muria is known to have introduced the technology of making traditional musical instruments such as gamelan (Ahmad & Nafis, 2021).

The concept of science in the Quran had a great influence on the teachings of the Wali Songo. They utilized verses from the Quran to explain various natural phenomena and promote the importance of science within the community. The Quran contains many verses that refer to celestial phenomena and celestial objects. The Wali Songo used these verses to teach the importance of astronomy. For example, they taught how to determine the direction of the Qibla and prayer times by using the positions of the

stars and the sun. The Quran states, "It is He who made the sun a shining light and the moon a light and determined their stations so that you may know the number of years and the reckoning (of time). Allah did not create this except with truth. He explains the signs (of His greatness) to a people who know" (QS. Yunus: 5).

The Quran contains numerous verses that describe the creation of the earth and various geological phenomena. The Wali Songo utilized these verses to teach about geography, the importance of environmental protection, and the understanding of natural phenomena such as earthquakes and volcanoes. For example, "Do they not look at the earth, how abundantly We cause to grow in it every good kind of vegetation?" (QS. Asy-Syu'ara: 7). The Quran also talks about the creation of humans, plants, and animals. The Wali Songo used these verses to teach biology and health. They emphasized the importance of maintaining health and using medicinal plants, as exemplified in verses such as, "And We send down of the Quran that which is a healing and a mercy for the believers..." (QS. Al-Isra: 82).

Many mathematical concepts can be found in the Quran, especially in the division of inheritance (*faraid*). Wali Songo taught this practical mathematics to the community to help them in their daily lives, such as in calculating *zakat* and inheritance. The Quran also teaches the importance of maintaining the balance of the ecosystem. Wali Songo emphasizes the importance of environmental preservation based on the teachings of the Quran which states, "Corruption has appeared on land and in the sea because of what the hands of men have earned; Allah wills that they may taste a part of their deeds, in order that they may return (to the right path)" (QS. Ar-Rum: 41).

Thus, Wali Songo succeeded in combining religious teachings with science through the concepts contained in the Qur'an. They employed this approach to construct a society that was not only faithful but also knowledgeable and wise in its application of

science. To be more concrete, we can observe the integration of the Qur'an with science in the figures of the Wali Songo, namely Sunan Muria, Sunan Kalijaga, and Sunan Kudus.

Sunan Muria was the son of Sunan Kalijaga and a significant figure in the spread of Islam in Central Java. He was known for his friendliness and courage in preaching. Sunan Muria was known to use a subtle approach in his preaching. He often employed folklore and art to convey scientific concepts from the Quran, such as astronomy and botany. Sunan Muria also taught good farming methods by utilizing agricultural knowledge contained in the Quran. Directly linking Sunan Muria's teachings to modern scientific concepts is a complex endeavor and requires more in-depth study. However, we can see a harmony between Islamic teachings in general and the spirit of scientific curiosity. Sunan Muria's teachings, with their emphasis on moral and ethical values, can serve as an inspiration for the development of science that benefits humanity (Ahmad & Nafis, 2021).

Sunan Muria certainly encouraged his people to seek knowledge, including knowledge about nature. This aligns with Islamic teachings, which strongly encourage humans to continue learning and understanding the universe. Sunan Muria's teachings on *tauhid* (the oneness of God) certainly imply an understanding of the universe as God's creation. This aligns with the fundamental principles of science, which seek to understand and explain order in natural phenomena. In Sunan Muria's teachings, moral and ethical values are strongly emphasized. This can be linked to the ethics of conducting scientific research, specifically that science should be used for the benefit of humanity (Yuliana, 2023).

One of Sunan Muria's greatest contributions was the establishment of Islamic boarding schools. Islamic boarding schools not only taught religion but also various life skills relevant to their time, such as agriculture, trade, and other technical skills. Thus,

Islamic boarding schools became centers of learning and development of science in their time. Sunan Muria's teachings, which emphasize the importance of seeking knowledge, have created a climate conducive to the development of science. A society educated with the values of curiosity and enthusiasm for learning will be more open to new ideas. Sunan Muria taught that religious knowledge and worldly knowledge complement each other. This encourages people not only to master religious knowledge but also to acquire knowledge that is useful for everyday life. Sunan Muria's teachings also emphasize the importance of utilizing knowledge to improve people's welfare. This is evident from the various activities he undertook, such as teaching agricultural and trade skills (Mujib, 2020).

The advanced irrigation system in Java is the result of a combination of traditional knowledge and knowledge obtained from various sources, including from traders and travelers. The teachings of Sunan Muria, which encouraged people to utilize natural resources optimally, may have contributed to the development of this irrigation system. Sunan Muria is known as a figure who pays great attention to economic aspects. He encouraged people to trade and establish relationships with various parties. This of course requires people to know trade, mathematics, and various languages. Sunan Muria used art as a medium for preaching. This encouraged the development of art and culture in Java, which in turn stimulated creativity and innovation (Ahmad & Nafis, 2021).

Sunan Kalijaga is one of the saints who is famous for his flexible and innovative approach. He used local arts and culture as a medium for preaching. Scientific concepts in the Quran, such as astronomy and physics, are conveyed through wayang and carving. An example is the use of stars and constellations in wayang stories that teach about astronomy. Like other scholars, Sunan Kalijaga must have viewed the universe as verses of Allah that require contemplation.

However, he may have emphasized the aesthetic and spiritual aspects of nature more than the scientific aspects. Sunan Kalijaga highly valued local knowledge. He may have combined the existing knowledge of nature in Javanese society with Islamic understanding of the universe. Through wayang and gamelan, Sunan Kalijaga imparted many lessons to the community, including insights into the universe, social life, and moral values (Yuliana, 2023).

Sunan Kudus, also known as Raden Said, is an Islamic figure who played a significant role in spreading Islam in Central Java. He is known for his courage in opposing religious practices that are contrary to Islamic teachings. Sunan Kudus is a guardian who highly values science. He is known for his policies that encourage people to learn and research. In his preaching, Sunan Kudus often links the teachings of the Quran with medical science and human anatomy, showing that health and science are important parts of religious life (Rosyid, 2022).

Sunan Kudus is known to be very tolerant of cultural differences. He was able to adapt Islamic teachings to the values and traditions of Chinese society, such as the use of the Go Meh stamp and the tradition of sedekah bumi (earth alms). Sunan Kudus emphasized more on the practice of worship and morals than on theoretical studies. He taught Islam through examples and role models. Like other wali songo, Sunan Kudus certainly saw the universe as God's perfect creation. However, he may have emphasized the aesthetic and spiritual aspects of nature more than the scientific aspects. Sunan Kudus highly valued local knowledge, including knowledge about nature that already existed in Javanese and Chinese society. Many religious practices taught by Sunan Kudus were closely related to nature, such as the sedekah bumi ritual and pilgrimages to the tombs of the saints (Nikmah, 2023).

Sunan Kudus' integrative approach shows that science and religion need not be opposed. Both can complement each other

and enrich human life. Sunan Kudus emphasized religious practice more than theory. This shows that science must be useful for human life. Sunan Kudus' tolerant approach to cultural differences has created a conducive climate for the development of science.

CONCLUSION

The integration of science with the Quran by Walisongo shows that religion and science complement each other. The approach they use in teaching this concept helps Javanese society to accept and understand Islam better. This study highlights the significance of the Walisongo's role in integrating religious teachings with science. Overall, this study provides new insights into the importance of an interdisciplinary approach in Islamic education. By combining science and religious teachings, Walisongo has developed an educational model that remains relevant and applicable today. This finding also emphasizes that integrating science into Islamic teachings can be a solution to addressing contemporary challenges by prioritizing harmony between scientific knowledge and spiritual values. Further research is needed to explore the contributions of other Walisongo figures who have not been studied in depth in the context of the integration of science and religion.

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