



Integration of Science and Religion

¹Umti Fatonah, ²M. Wasith Achadi, ³Mike Dewi Kurniasih

¹⁻²Islamic Education, Faculty of Tarbiyah and Teacher Training UIN Sunan Kalijaga

³Biology Education, Faculty of Tarbiyah and Teacher Training UIN Sunan Kalijaga

* Corresponding Author. E-mail: 22204011053@student.uin-suka.ac.id

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Abstrak

Sains dan agama adalah satu keilmuan yang saling berkaitan dan juga merupakan satu keilmuan yang utuh. Al-Qur'an dan hadis yang tidak ada keraguan di dalamnya tidak akan pernah lepas dari pengetahuan. Tujuan dari penelitian ini, tidak lain hanyalah untuk mengetahui pada integrasi sains dan agama. Metode penelitian ini menggunakan library riset, yang data yang digunakan dalam penelitian ini terpaku pada kajian literatur. Hasil penelitian menunjukkan bahwa adanya keterkaitan antara sains dan agama. Sejatinya al-Qur'an sudah menjelaskan segala sesuatu yang berhubungan dengan sains. Melalui jiwa dan perasaan, Islam akan menyeimbangkan akal, pikiran dan logika manusia berdasarkan sains. Banyak sekali ilmu sains yang berkaitan dengan agama Islam. Dalam al-Qur'an sudah banyak penjelasan-penjelasan tentang sains, mulai dari ilmu kesehatan, kedokteran sampai astronomi.

Kata Kunci: Integritas, Sains, Agama

Abstract

Science and religion are interrelated sciences and are also a complete science. The Qur'an and hadith which there is no doubt in them will never be separated from knowledge. The aim of this research is none other than to find out about the integration of science and religion. This research method uses a research library, the data used in this research is based on literary studies. The research results show that there is a connection between science and religion. In fact, the Qur'an explains everything related to science. Through the soul and feelings, Islam will balance human reason, thoughts and logic based on science. There is a lot of scientific knowledge related to the Islamic religion. In the Qur'an there are many explanations about science, ranging from health sciences, medicine to astronomy.

Keywords: Integrity, Science, Religion

Introduction

Science and religion are one science that is interrelated and also a whole science. The Qur'an and hadith that there is no doubt in it will never escape knowledge. But there are also some scientists who view science and religion as standing on their respective

positions. In the field of science, to ensure the truth of the science is to rely on data and supported empirically. On the contrary, religion is only based on the form of belief and

is ready to accept abstract things.¹ The relationship between science and religion in Islam is not new. Over time, many problems arose, related to science and religion. As at present, a serious problem in the world of education is the fading of spiritual values in the millennial era.²

Geologically it can be seen in the complexity of the interaction of science and religion regarding the debate between the dimension of faith that is understood textually and the understanding of science that marginalizes religious doctrine, because it is considered incompatible with the thinking of reason. In society at large, they assume that religion and science are two different entities. Each has its territory, separated from one another. As for other expressions that science does not care about religion, and vice versa religion does not care about science (Abdullah, 2004: 3). This is because there is an assumption that science and religion have different ways both in terms of approach and experience, and these differences are the source of debate. Science is closely related to very abstract experience, such as mathematics, while religion is more closely related to experience on life.³

The erroneous understanding of current developments is the assumption that religion and science are two different and inconcommodating things that lead to no relationship between the two. For this reason,

there is a need for integration between science and religion so that the influence of people's views can be different, with the integration which is currently being intensively discussed as well as the construction of public faculties at Islamic Universities. Islam is a religion that has one unity of values and knowledge as in the past where there was no separation between sciences. We are all aware that the western strategy to make Muslims regress in the past is to separate science from religion, thus causing the entry of secularism.⁴

In the development of science, religion has a very important role. Sometimes the two contradict each other and sometimes walk side by side. For this reason, Islamic Religious Education subjects were made so that religion and science could strengthen each other. PAI subjects are part of the compulsory curriculum for Muslims in Indonesia. The purpose of the inclusion of PAI subjects in the learning process is to guide and educate someone to understand the teachings of Islam by forming people who are beneficial to life.

In addition to learning about religious science, PAI subjects also teach about science. This opinion is reinforced by Q.S. Ar-Rum:50 Not only limited to studying religious science at the education level, the relationship between religion and science also requires an integration in the process. In integrase, religion contributes its teachings to science and science rewards its discoveries to religion.⁵ The term

¹ Chanifudin, Tuti Nuriyati, "Integration of Science and Islam in Learning" in *Jurnal Pendidikan Asatiza*, Vol 1, No 2, 2020, p. 213

² Alya Zhulfarani, et al, "The Integration of Science and Religion and Its Implications for Islamic Education" in *Indonesian Multi-disciplinary Scientific Journal Humantech*, Vol 2 Special Issue, 2022, p. 774

³ Iis Arifudin, "The Integration of Science and Religion and Its Implications for Islamic Education", in *Journal of Edukasia Islamika*, Vol 1 No 1, 2016, p. 162

⁴ M. Anwar Sadat, "The Integration of Science and Religion Implications for Islamic Religious Education", in *Book chapter of proceedings journey-liaison academia and society*, Vol 1 No 1, 2022, p.250

⁵ Febri Giantara, Reni Amiliya, "Integration of Science Learning in the Islamic Religious Education

integrasi lexicallly means "*combine (something) so that it becomes fully a part of somethings else*". When interpreted as a noun, integrasi means "*mix or be together as one group*". So integrasi means to unite, combine, unite two or more things into one. Integrasi comes from the English "*Integration*" which means perfection or wholeness.⁶ Integrasi is a process that refers to an individual's attachment to the wider community and is usually measured in terms of job roles, organizations and communities. The form of integration needed by a PAI teacher is the integration of religion and science in the learning process.⁷

One of the strategic steps in facing globalization and the demands of the Indonesian people is the implementation of the 2013 curriculum. Because seeing that our nation is currently facing a national crisis in various dimensions of life such as economy, politics, law and so on. Therefore, Islamic religious education is expected to be a basic foundation for students in learning general science. Because in this condition, people expect a lot of services and the role of religious education in which there are full dimensions of morality and spirituality, both conceptually and actuality or normativity and historicity (Muhaimin, 2001: 86).⁸

In connection with realizing the ideal Islamic Education, the integration of religious

science and modern science is pursued by review, namely: first, all Muslims need methods, techniques and procedurals related to religious science and science in fulfilling and completing their interests and needs, material and spiritual. Second, Muslims have had a cultural age at which time science has improved according to the rules, values, interests, and needs of Muslims. Third, the education learning system has undergone changes in its delivery, namely *online* learning which requires an educator to have flexibility in learning conditions. The Qur'an and the sunnah of the Prophet which are the source of Islamic religious teachings, contain an order that regulates human life in social interaction and society and includes aspects of rituality and intellect.⁹

Failures are also still reaped in the practice of Islamic Religious Education. Education that only pays attention to cognitive aspects and ignores the formation of affective and conative-volitive aspects, namely the determination to practice the values of religious teachings. This results in a gap between knowledge and experience in religious life. PAI education is the most important moral education instilled in humans, because humans when they already have basic

Curriculum" in Proceedings of the national seminar on research and community service results, 2021, p. 10

⁶ Lalu M. Nurul W, "Integration of Islamic Education and Science", (Uwais Insp irasi Indonesia p. 149

⁷ Febri Giantara, Reni Amiliya, "Integration of Science Learning in the Islamic Religious Education Curriculum" in Proceedings of the national seminar on research and community service results, 2021, p. 10

⁸ Muhammad Mitah, "Model of Integration of Science and Religion in National Education", in Journal of Research, Vol 14 No 2, 2017, p. 195

⁹ Himmawan.A, Sadam Fajar. S, "The Integration of Badiuzzaman Said Nursi's Religion-Science and Its Relevance to Digital Age Islamic Agama Education in Indonesia", in Bulletin of Indonesian Islamic Studies, 2023, p. 3

religious knowledge already have instructions in living life.¹⁰

The formation of academic lectures on science and Islam is a strong indication of the relationship between science and religion, which is now an important consideration among thinkers. Therefore, this paper is an attempt to examine the views of the relationship between science and Islam.

Research Methods

This research method uses library research by collecting data from articles, journals, books related to the integration of science and religion and their implementation in PAI. The analysis method used is descriptive analysis. Analysis. Descriptive analysis is a form of analysis in the form of explanation and exploring the main ideas that are pleasing to the topic discussed

Results and Discussion

A. Integration

The term *integrase* (*to integrate*) lexically means "*combine (something) so that it becomes fully a part of somethings else*". If interpreted as a noun, *integrase* (*integration*) means "*mix or be together as one group*" which means to unite, combine, unite two or more things into one. Integration comes from the English "integration" which means perfection or wholeness.

Integrase science is interpreted as a process of perfecting or unifying sciences that have been considered dichotomous so as to produce a pattern of integrative

understanding of the concept of science. Integrase is to make the Qur'an and Sunnah the grand theory of knowledge, so that the verses qauliyah and kauniyah can be used.¹¹ In other words, *integrase* means whole or comprehensive. Integrase is more than just combining knowledge of science and religion, but *integrase* is an effort to bring together perspectives, ways of thinking, ways of acting between science and Islam.¹² The integration of science and religion is interpreted as a process of merging and adjusting between elements of science and religion, resulting in a combination of two different dimensions which then have harmony.

B. Science and Religion

Science according to Saswinadi Sasmojo is defined as part of the set of information included in scientific knowledge, and contains information that provides an overview of the structure of systems and an explanation of the behavior patterns of these systems. The system in question can be a natural system, or a system that is a fiction of human thinking about the pattern of relationship behavior in the institutionalized order of community life.¹³

Literally, science means knowing. This means that science can be interpreted as a situation or fact of knowing, it is commensurate with knowledge which is the opposite of the word intuition or belief. The word science has developed into the direction

¹⁰ Chanifudin, Tuti Nuriyati, "Integration of Science and Islam in Learning" in Jurnal Pendidikan Asatiza, Vol 1, No 2, 2020, p. 216

¹¹ Lalu M. Nurul Wathoni, "Integration of Islamic Education and Science: Reconstruction of Islamic Education Paradigm", (Ponorogo: CV Uwais Inspirasi Ponorogo, 2018), p. 149

¹² Chanifudin, Tuti Nuriyati, "Integration of Science and Islam in Learning" in Asatiza educational journal, Vol 1, No 2, 2020, p. 218

¹³ Lalu M. Nurul Wathoni, "Integration of Islamic Education and Science: Reconstruction of Islamic Education Paradigm", (Ponorogo: CV Uwais Inspirasi Ponorogo, 2018), p. 150

of observation, experiments and studies carried out deliberately to find out the basic nature or principle of the thing being studied. Empirically and physically, science has a meaning on metaphysical problems. This interpretation leads science to the form of the physical world, which is like an experiment in a laboratory. ¹⁴Science comes from *kauniyah* verses which means speech or words that are presented through evidence,

Related to science, technology also has the most important role in carrying it out, humans are commanded by the Qur'an to continue to strive to improve scientific capabilities to continue to develop technology by utilizing something that Allah has given. Natural science in the Islamic view is a balance with religion, which in this connection implies an aspect in the pursuit of scientific knowledge by Muslims. In the Qur'an,¹⁵ nature itself is seen as a collection of signs that point to God.

Regarding religion, religion encompasses many things. For example, Ninian Smart uses worldview analysis to explore the dimensions of religion, which is seen as a worldview. According to him, there are six dimensions of worldview, namely: 1) doctrinal or philosophical dimension, 2) narrative or mystical, 3) ethical or legal, 4) practical or ritual, 5) experiential or emotional, and 6) social or organizational dimension.¹⁶

Attempting to link and integrate science and religion does not necessarily mean uniting or even mixing, because the identity or character of each of the two entities does not have to be lost. This can be interpreted as an integration effort that produces new contributions to science and religion that can be obtained if the two are separated.¹⁷

C. Islamic Education

One of the famous Muslim Education experts is Al-Ghazali, according to him the purpose of Islamic Education is divided into two, namely the short term, which means the achievement of the human profession in accordance with their talents and abilities, and the long term which is to get closer to Allah SWT. Ibn Sina argues about the purpose of Islamic Education to achieve happiness (*sa'adah*) in stages according to the level of education (personal, household, community, and human happiness as a whole).¹⁸ In this case, the integration of science is one of the efforts that can be made in realizing the integration of science and religion, including by taking the following steps.

1. Making the Qur'an the main source in integrating knowledge or the basic foundation for the achievement of general science obtained from observation, experimentation, and logical reasoning whose position as a source of support in increasing confidence in Allah.

¹⁴ Febri Giantara, Reni Amiliya, "Integration of Science Learning in the Islamic Religious Education Curriculum" in Proceedings of the national seminar on research and community service results, 2021, p 11

¹⁵ Chanifudin, Tuti Nuriyati, "Integration of Science and Islam in Learning" in Jurnal Pendidikan Asatiza, Vol 1, No 2, 2020, p. 219

¹⁶ Zainal Abidin, et al, "Integration of Science and Religion", (Bandung: PT Mizan Pustaka, 2005), p. 27

¹⁷ Iis Arifudin, "Integration of Science and Religion and Its Implications for Islamic Education", in Journal of Islamic Education, Vol 1 No 1, 2016, p. 164

¹⁸ Febri Giantara, Reni Amiliya, "Integration of Science Learning in the Islamic Religious Education Curriculum" in Proceedings of a national seminar on research and community service results, 2021, p. 11 1894

2. The boundaries of Islamic studies material are expanded and avoid dichotomies in Islam.
3. Growing a person with the character of Ulil Albab, which is a person who is really able to use his mind and mind to understand natural phenomena.
4. Tracing verses in the Qur'an that talk about science.
5. Developing educational curricula in educational institutions.¹⁹

Islamic Education as an Institution that is recognized for its existence as an Islamic educational institution explicitly. Islamic education as a subject recognized religious education as one of the compulsory subjects given at the elementary level to tertiary education. And Islamic education as a value, namely the discovery of Islamic values in the national education system.

Islamic education or Islamic religious education or education in Islam is an educational concept whose basic concepts can be understood and analyzed and developed from the Qur'an and the hadith of the Prophet, operational concepts can be understood, analyzed, funds developed from the process of cultivating, inheriting, and developing Islamic teachings, culture, and Islamic civilization from generation to generation.

While practically it can be understood, analyzed, and developed from the process of coaching and developing (education) the Muslim person in every generation in the history of

Muslims so that it can be said that all activities related to the cultivation of Islamic values both between individuals, in families, educational institutions and in the community constitute Islamic education.²⁰

D. Integrase of science and religion in the concept of Islamic Education

There are still opinions against the inevitability of attempts to integrate science and Islam in the perspective of the contemporary scientific world, but agreement on the inevitability of the integration of science and Islam is gaining strength among scientists, especially among Muslim postmodern philosophers.

Naquib al-Attas said that the most effective step in conducting scientific integration is through the Islamization of language. According to him, the Islamization of language has actually been shown by the Qur'an in Sura al-'Alaq: 1-5. It is this basic vocabulary of Islam that projects a distinctively Islamic worldview in the minds of Muslims. Many contemporary Muslim thinkers are intensely studying and discussing efforts to fight for the integration of science and Islam. Even in Islamic educational institutions, especially in Indonesia, efforts to implement the integration of science and Islam continue to be carried out almost massively.

In Islamic Education, the integration of science and religion is always interrelated. By incorporating educational values into Islam such as the subjects of the

¹⁹ Chanifudin, Tuti Nuriyati, "Integration of Science and Islam in Learning" in *Asatiza educational journal*, Vol 1, No 2, 2020, p. 221

²⁰ Halid Hanafi, et al, "The Science of Islamic Education", (Yogyakarta: Deepublish, 2019, p. 44

Qur'an and Hadith in PAI learning, there is already an integration between science and religion. PAI learning should be directed towards the formation of solikhahs, not just Islamology. PAI learning should not only focus on understanding religious issues (tafaquh fi-dhin), but also the need to invite students to reflect on the universe that Allah created, in order to increase their faith and devotion. The integration of PAI subjects with science has several scientific reasons, including:

1. Religion commands its people to think, so that by thinking man can know the powers of God through His verses
2. Science learning (physics and biology) broadly explains about natural phenomena and nature preservation
3. PAI learning is said to be successful if students become faithful and devout. Because after faith and piety are deeply instilled, it can be ascertained that good harmony will be created with fellow humans and the surrounding environment. It is this good harmony that is essentially the source of man's outward and mental well-being.²¹

E. Implications of science and religion integration in higher education

The implications of science and religion courses contained in the Education program at UIN Sunan Kalijaga contain topics included in epistemology, especially talking about the epistemological status of applied sciences and engineering, their conceptual relationship with the principles of

monotheism that govern the physical world (natural), with scientific methods and creative thinking and with epidemiological implications of certain aspects of human creativity in applied science and contemporary engineering, particularly in genetic engineering.²²

No less important is how the curriculum delivers research in the field of science to then find a connection point with objective reality that occurs in religious areas. In this material many emphasize the recommendation of Qur'anic verses that explain the use of reason in understanding the wisdom of the creation of the universe. Mastery of science must be balanced with wisdom understanding of the purpose of Allah SWT creating the universe. Because of the importance of the role of faith as an object of study, religious science serves to balance between modern thought and the will of Allah SWT, namely revelation.

Literally, integrase is the opposite of separation. Integrase seems to be a *religiously correct attitude*, that science and religion should be integrated. However, in addition to paying attention to various fundamental differences, of course we can also see various possible correlations between the two. Among the problems faced by science and religion are the problems of the times. In the scientific field, the times mentioned various problems. First, from the point of view of the philosophy of science, it clearly shows that science contains serious problems at the

²¹ Febri Giantara, Reni Amiliya, "Integration of Science Learning in the Islamic Religious Education Curriculum" in Proceedings of a national seminar on research and community service results, 202, 1p. 12

²² Iis Arifudin, "The Integration of Science and Religion and Its Implications for Islamic Education", in Journal of Islamic Education, Vol 1 No 1, 2016, p. 174

level of basic methodological assumptions as well as their epistemological and ontological implications.

Second, the results of science and technology can also be very ambivalent. On the one hand it is increasingly able to engineer reality to be more in line with human society, on the other hand its side effects can also be very destructive and cause serious ethical problems. Third, the journey of knowledge until now has reached spiritual areas. Fourth, the dominance of science and technology has now resulted in a tendency to dominate instrumental-pragmatic thinking patterns in everyday reality.²³

After we know the various problems of the times and some fundamental differences between science and religion, then it helps us to look at the possible meeting points between the two. Science is actually able to help religion revitalize itself with several of them: 1) critical awareness and realistic attitudes formed by science are very useful to peel off the side of religious inspiration, to find more essential things from religion, 2) logical ability and prudence to draw conclusions that make us able to judge critically, 3) through its latest findings, science can stimulate religion to always be responsive to rethinking its new beliefs, 4) the findings of science and technology can also provide new opportunities for religion to further realize its ideals concretely.²⁴

In relation to the integration of science and religion, what is needed by Islamic Education today is an education system

with the title of interdisciplinary science in Islam (*Interdisiplin Sciences in Islam*). This integrative paradigm is time to be developed in this modern century. With the new education system where the curriculum taught is a complete statement between the value of revelation and science. Islamic education is then also placed in a theanthropocentric-integralistic scientific classification system, which is a classification system that integrates integrally between *transmitted knowledges and acquired knowledges* through the use of interdisciplinary scientific approaches and methodologies (integrate and interconnection) thus, Islamic Education is no longer an executive and isolated discipline (*isolated entites*), but instead it becomes a scientific discipline that is responsive to various actual problems (*current issues*).²⁵

With this system, it is expected to create a holistic and not partial academic atmosphere. The integrative paradigm will be able to bridge the sharp gap between general education and religious education, because madrasah as a form of renewal of the Islamic Education system (*pesantren*) in the modern period only faces institutional-scientific and methodological problems. In addition, the paradigm of integrative Islamic education will give birth to an inclusive attitude, so that it does not respond to developments only in reactionary ways, let alone make itself *the living ground of radicalism*.

²³ Zainal Abidin, et al, "Integration of Science and Religion", (Bandung: PT Mizan Pustaka, 2005), p. 42

²⁴ *Ibid*, p. 46

²⁵ Iis Arifudin, "Integration of Science and Religion and Its Implications for Islamic Education", in Journal of Islamic Education, Vol 1 No 1, 2016, p. 172

Implications in terms of curriculum can be in the form of preparing a syllabus around two fundamental issues, namely (1) epistemology, and (2) ethics. The topics included in epistemology speak primarily of the epistemological status of the applied and engineering sciences, their conceptual relationship to the principles of monotheism (i.e., metaphysical knowledge and cosmology) governing the physical (natural) world, to scientific methodology and creative thinking (including mathematical inspiration) and to the epistemological implications of certain aspects of human creativity in contemporary applied science and engineering, particularly in Genetically. And no less important is how the curriculum will deliver students to have the desire and ability to conduct research in fields of science to then find a connection point with objective reality that occurs in religious areas. In this process education plays a decisive role in the integral process of science and religion, a process that will appreciate the theoretical results of knowledge and eternal practical experience of the divine nature extracted from each person's personal experience.²⁶

So, if we now talk about integration between the two, it seems that it is still imagined as just an interaction. If what is imagined is this, then the most realistic thing is to simply provide opportunities that allow the interaction to occur. And these interactions can be in the form of criticizing each other or deconstructing each other,

but this is simply so that science and religion are able to always transcend themselves, by breaking each other's closure or stagnation.

²⁷

Conclusion

In the Islamic Education system, there is an integration of science and Islamic religious values. The results showed that there is a relationship between science and religion. In fact, the Qur'an has explained everything related to science. Through soul and feeling, Islam will balance human reason, mind and logic based on science. There are so many sciences related to Islam. In the Qur'an there have been many explanations about science, ranging from health sciences, medicine to astronomy. The implementation of integrating science and religion in the Islamic religious education curriculum is also contained in science material taught through tafakkur and tadabur to the universe. With the existence of an integrative paradigm in the scientific context between *transmitted knowledges* and acquired knowledge, *it is hoped that a holistic and impartial academic atmosphere will be created.*

So that the barriers of specialization of certain fields of knowledge do not result in the formation of myopic-narcissistic insights, nor do the reach of knowledge limit itself to facts or the introduction of immanent finality, which is only seen in its "pragmatic" meaning. However, there is also the existence of the meaning or finality of science that is transcendent, that is, something that is beyond science which is the significance and direction

²⁶ Ibid, p. 173

²⁷ Zainal Abidin, et al, "Integration of Science and Religion", (Bandung: PT Mizan Pustaka, 2005), p. 46

of something in its teleological sense. The implications of science and religion courses contained in the Education program at UIN Sunan Kalijaga contain topics included in epistemology, especially talking about the epistemological status of applied sciences and engineering, their conceptual relationship with the principles of monotheism that govern the physical world (natural), with scientific methods and creative thinking and with epistemological implications of certain aspects of human creativity in applied science and contemporary engineering, particularly in genetic engineering.²⁸ No less important is how the curriculum delivers research in the field of science to then find a connection point with objective reality that occurs in religious areas.

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²⁸ Iis Arifudin, "The Integration of Science and Religion and Its Implications for Islamic Education", in *Journal of Islamic Education*, Vol 1 No 1, 2016, p. 174