



The Integration Model of Islam and Science Learning in Islamic Education and Character Building at SMK Muhammadiyah 8 Paciran

Muhammad Hambal Shafwan ¹, Roy Imam Syah²

Universitas Muhammadiyah Surabaya^{1,2}

Email correspondence: muhammadhambalshafwan@um-surabaya.ac.id

Article History

Received: 05-06-2024

Revised: 06-07-2024

Accepted: 07-07-2024

Keywords

Learning Models,
Integration of Islam
and Science,
Islamic Religious
Education and
Character

Abstract

This research aims to discuss: (1) How is the learning model of Islamic education; (2) How is the implementation of Islamic and science integration learning model in Islamic Education; (3) How is the Implication of Islamic and science integration learning model on Islamic education subject in class x at SMK Muhammadiyah 8 Paciran. This research uses a descriptive qualitative approach. Data collection techniques used interviews, participant observation and documentation. Data analysis consisted of data reduction, data presentation and conclusion drawing. Data validity checking was done through triangulation of sources and techniques. The results of the study concluded that the research highlighted that first: the learning model of PAI and Budi Pekerti at SMK Muhammadiyah 8 Paciran is still conventional and less active for students. Second: With the implementation of the Islamic and science integration learning model, there is a significant change in the learning approach. The multidisciplinary approach applied allows students to relate the teachings of the Qur'an to various disciplines, resulting in a more meaningful understanding of Islamic religion and scientific concepts. Third: In addition, the model increases student engagement and makes learning conditions more conducive, strengthening critical skills as well as students' overall learning motivation. Thus, the implementation of this model promises significant improvements in the effectiveness of PAI and Budi Pekerti learning at SMK Muhammadiyah 8 Paciran

This is an open access article under [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/) license.

Copyright © 2024 by Author. Published by [CV. Zamron Pressindo](https://cv.zamronedupressindo.com/)

Available online at: <https://journal.zamronedu.co.id/index.php/arfachruddin/issue/archive>



INTRODUCTION

Education is a planned and consciously carried out effort to achieve lifelong active learning in order to continuously enhance an individual's potential, thus creating quality humans capable of facing the challenges of the times, as stated in the national education vision.¹ Learning encompasses all efforts made by educators to ensure the learning process occurs within students.² The learning process must be conducted interactively and inspirationally, in an enjoyable, exciting, challenging environment that motivates students to participate actively, and provides space for initiative, creativity, and independence in accordance with the talents, interests, and physical and psychological development of students.³ Implicitly, within learning, there are activities of selecting, establishing, and developing methods or models to achieve the desired learning outcomes.⁴

The existence of a learning model serves as a guide or framework for the learning process, illustrated from beginning to end to achieve specific learning objectives.⁵ The learning model itself describes the sequential flow or steps of learning activities. In determining a learning model, it must be aligned with the most appropriate concept to improve student learning outcomes, as one of the causes of learning failure is the selection of an inappropriate learning model.⁶

Islamic Education and Character Building (PAI and Budi Pekerti) is a learning process conducted by educators towards students to teach Islamic values and instill Islamic moral behavior.⁷ According to Hasan Langgulung, the learning of Islamic education becomes a process of preparing the younger generation to play a role in the transfer of Islamic knowledge and values, which is aligned with the human function to act in the world and reap the results in the hereafter. Therefore, Islamic education cannot be understood merely as the transfer of knowledge but also as the transfer of values and is oriented towards both the world and the hereafter.⁸

Islamic education is a subject taught in both public and private schools, expected to contribute significantly to shaping the character or morals of students as stated in the National Education Law of 2003. This law aims to develop individuals with religious spiritual strength,

¹ Uci Sanusi, 'Integrated Learning Dalam Pendidikan Agama Islam', *Ta'lim*, 12.2 (2014), 163.

² Hehsan, Aminudin, et al. "Digital Muhadathah: framework model development for digital Arabic language learning." *International Conference on Information and Communication Technology for Competitive Strategies*. Singapore: Springer Nature Singapore, 2022. https://doi.org/10.1007/978-981-97-0744-7_2.

³ Mutaqorribain, Syarifatul, Asrori Asrori, and Rusman Rusman. "The Effect of Teacher's Motivation on Student Learning Activities in Islamic Education Lessons." *Nazhruna: Jurnal Pendidikan Islam* 5.3 (2022): 887-907. <https://doi.org/10.31538/nzh.v5i3.2101>.

⁴ Lumbilsa, Abbas. "Improving Creativity and Learning Outcomes Through Team-Assisted Individualization Learning Islamic Education Lessons." *EDUKASI: Jurnal Pendidikan Islam (e-Journal)* 11.2 (2023): 199-213. <https://doi.org/10.54956/edukasi.v11i2.371>.

⁵ Hidayat, Moch Charis, and Sokhibul Arifin. "Integration Science Technology with Islamic Values: Empowering Education Model." *1st Borobudur International Symposium on Humanities, Economics and Social Sciences (BIS-HESS 2019)*. Atlantis Press, 2020. 10.2991/assehr.k.200529.202

⁶ Asrori, Asrori. "The Concept of Learning Islamic Education Based on Multicultural in Establishing Religious Moderation." *Proceeding Annual Conference on Islamic Religious Education*. Vol. 2. No. 1. 2022.

⁷ Arifin, Syamsul, M. Nurul Humaid, and Asrori Asrori. "Menuju Paradigma Baru: Filsafat Sains Dalam Islam." *TADARUS* 12.1 (2023). <https://doi.org/10.30651/td.v12i1>.

⁸ Muhammad Hambal Shafwan, *Intisari Sejarah Pendidikan Islam : Menelusuri Praktek Tarbiyah Dan Dakwah Sejak Diutusnya Rasulullah SAW Hingga Kemerdekaan Indonesia Demi Menyongsong Kembali Kejayaan Pendidikan Islam* (Solo: Pustaka Arafah, 2020), 18.

self-control, personality, intelligence, noble character and the skills necessary for themselves, society, the nation, and the state.⁹ Islamic education (PAI) should be a favorite and prioritized subject due to its alignment with the innate nature of human life, which is to guide humans to become faithful individuals who are strong physically, mentally, and spiritually, intelligent, noble in character, and possess the skills necessary for their benefit, their society, and their environment.¹⁰

However, in reality, many in society underestimate the PAI (Islamic Education) subject itself, viewing it merely as an additional or supplementary subject. Broadly speaking, there are two main issues in the implementation of PAI learning. First, the monotonous nature of the learning process, and second, the dichotomy of knowledge, known as general knowledge and religious knowledge. This leads to PAI learning being limited and uninteresting. As a result, PAI learning becomes ineffective and ultimately fails to achieve its goals.¹¹

The primary cause of this is the predominance of conventional and monotonous teaching methods in PAI learning. One-way lectures, merely noting down and memorizing concepts explained by the teacher, without giving students the opportunity to explore these concepts themselves, limit PAI teaching to just matters of religious understanding. Consequently, this tends to be more indoctrinative compared to other subjects that directly relate to the working world. Such monotonous teaching methods make PAI learning limited, uninteresting, and ineffective, leading students to become lazy and bored during PAI lessons, thus resulting in the failure to transform the values contained in PAI learning itself.

Another issue is the standalone nature of PAI material, referred to as dichotomy. The dichotomy issue arises from the belief that religious knowledge and general knowledge come from different sources—religion comes directly from God, while knowledge is the product of human thought. Thus, religious knowledge is absolute, whereas general knowledge is relative. Religion starts from belief (faith), while general knowledge begins with doubt and disbelief. The dichotomy paradigm between general knowledge and religion has already spread and become accepted as a correct viewpoint by society. The view of the differences between religious knowledge and general knowledge is a clear indication of this paradigm. This dichotomy in knowledge eventually enforces the belief in a dualistic education system between "religious education" and "general education."

In Indonesian society, there are still many misconceptions and erroneous perceptions regarding religion, religious education, religious subjects, and religious learning. Many consider religion to be limited to ritual practices such as prayer, remembrance, supplication, fasting, almsgiving, pilgrimage, managing funerals, marriage, and similar activities.¹² Conversely, another perspective in society links religious learning solely to becoming an ustadz (religious

⁹ Undang-Undang Republik Indonesia, 'Sistem Pendidikan Nasional', 20, 2003, 2.

¹⁰ Shafwan, *Intisari Sejarah Pendidikan Islam: Menelusuri Praktek Tarbiyah Dan Dakwah Sejak Diutusnya Rasulullah SAW Hingga Kemerdekaan Indonesia Demi Menyongsong Kembali Kejayaan Pendidikan Islam*,... 19.

¹¹ Ridlwan, M., and Asrori Asrori. "Problems of Implementation of Islamic Religious Education at Muhammadiyah Junior High School 4 Gadung Surabaya." *International Conference on Islamic and Muhammadiyah Studies (ICIMS 2022)*. Atlantis Press, 2022. 10.2991/assehr.k.220708.039

¹² Hambal, Muhammad. "Aqidah Education Main Elements Of Character Building." *International Conference on Islamic and Social Education Interdisciplinary*. Vol. 1. No. 1. 2020.

teacher), causing greater concern among parents if their children do not master scientific knowledge compared to religious knowledge.¹³

However, if we delve deeper into the roots of epistemology, subjects like physics, chemistry, and biology actually reflect applications of Islamic Education (PAI). In fact, theories found in sciences such as physics, chemistry, and biology can be found in the Qur'an. Islamic history also shows that many scholars were not only experts in religious fields but also became great scientists in various fields such as medicine, mathematics, sociology, law, and others. Examples include Ibn Sina in medicine, Al-Khwarizmi in mathematics, Ibn Khaldun in sociology, and Ash-Shafi'i in law. This demonstrates that Islamic values have been a major driving force for the advancement of science and knowledge, which are crucial pillars in societal development.¹⁴

Therefore, the dualistic or separate view between religious knowledge and general knowledge must be corrected. Instead, a concept is needed that can integrate and dialogue between religion and general knowledge to enrich the understanding and development of society as a whole.

Islamic education practices must develop an integration of knowledge that makes education more comprehensive because, in essence, Islam never introduced the term dualism-dichotomy of knowledge. Religious and scientific knowledge should be placed in a balanced position, as stated by Allah SWT: "And seek the (reward of) the Hereafter by means of what Allah has granted you, but do not forget your share of this world, and do good as Allah has done good to you. And desire not corruption in the land. Indeed, Allah does not like corrupters." (Qur'an, Surah Al-Qasas: 77).¹⁵

Therefore, Islam and science must find a balance in their research and application because both fields are interdependent and mutually beneficial in facing current life challenges. When we talk about science, we think of holistic knowledge. Science and religion have different material frameworks but are interdependent and related to religious values. The reality shows that many scientists and technologists are not equipped with religious knowledge, leading to self-harm. Science is continuously sought after and researched, with no end in sight, as it evolves with the patterns of life and technological advancements.¹⁶

The integration of knowledge between Islam and science must always be formulated and conceptualized, even though the idea of integration may seem outdated for discussion, given that the dichotomy has been entrenched since the medieval period. However, the development of ideas for deeper study can provide a wide spectrum and become something

¹³ Anwar, Saiful, et al. "Konsep Pendidikan Furusiyah Ibnu Qayyim Al-Jauziyyah dan Relevansinya dengan Pendidikan Kontemporer." *PAIDA: Jurnal Pendidikan Agama Islam UNIMUDA 2.2* (2023): 253-264. <https://doi.org/10.36232/paida.v2i2.4614>.

¹⁴ Hana Luthfi Alifah, "Model Pembelajaran Integratif Pendidikan Agama Islam Berbasis Sains Al-Qur'an Di SMA Sains Al Qur'an Wahid Hasyim Yogyakarta," *Skripsi* (UIN Sunan Kalijaga Yogyakarta, 2018), 3-4.

¹⁵ Kementrian Agama Republik Indonesia, *Al-Qur'an Dan Terjemahannya* (Jakarta: Lajnah Pentashihan Mushaf Al-Qur'an, 2016).

¹⁶ Chanifudin and Tuti Nuriyati, 'Integrasi Sains Dan Islam Dalam Pembelajaran', *Asatiza*, 1.2 (2020), 215. <https://doi.org/10.46963/asatiza.v1i2.77>

interesting to study and critically examine.¹⁷ Thus, the issue of knowledge dichotomy is expected not to have broader implications in the implementation of Islamic education, especially amid the efforts of Muslims to reform and improve the quality of Islamic education, which is still lagging and marginalized.¹⁸

SMK Muhammadiyah 8 Paciran is a vocational school that deals with science and technology discussions daily. This school is a place of observation, given the very monotonous PAI learning model and the limiting understanding of religious knowledge. The quality of learning at SMK Muhammadiyah 8 Paciran, based on the 2024 education report, shows an improvement with a moderate achievement rate of 60.13%, indicating a shift towards quality improvement marked by a more conducive classroom environment and affective support, as well as cognitive activation from teachers. The root problem in the quality of learning lies in the reflection and improvement of teaching by teachers, which reaches 58.75%, and a decline in the application of innovative practices with a percentage of 54.18%. This indicates that the efforts to develop learning quality are unstructured, and teachers are inconsistent in reflecting on their teaching, exploring new teaching references, and initiating new innovations. Most students at SMK Muhammadiyah 8 Paciran do not continue to college and prefer to work directly, with a percentage of 53.33%. Therefore, the values taught in PAI lessons must be conveyed to the students.

Innovative PAI learning models are needed to equip students at SMK Muhammadiyah 8 Paciran so that they can understand Tawhid correctly and gain a comprehensive understanding of Islam in their daily lives, both inside and outside of school, until they graduate and either work or go to college. Thus, it is necessary to contextualize learning to improve the quality of education at SMK Muhammadiyah 8 Paciran. The contextualization process of PAI learning can start from the learning model, the implementation of learning, to the evaluation of learning. To address these weaknesses and shortcomings, PAI learning requires an approach that can help students study Islam comprehensively, not just through understanding and memorization. One such approach is the integration model of Islam and science in learning. With the integration of Islam and science in PAI learning, it is hoped to solve the problems that have long plagued the shortcomings in PAI learning.

The integration model of Islam and science in its application emphasizes that the teacher acts more as a facilitator, serving as a bridge to higher understanding for the students. The teacher is not merely imparting knowledge to the students but must also help them construct knowledge in their minds. Students have the opportunity to gain direct experience in applying their ideas.¹⁹

The integration of Islam and science in the PAI (Islamic Education) subject will enable the students of SMK Muhammadiyah 8 Paciran to learn comprehensively and make

¹⁷ Hidayat, Moch Charis, and Sokhibul Arifin. "Integration Science Technology with Islamic Values: Empowering Education Model." *1st Borobudur International Symposium on Humanities, Economics and Social Sciences (BIS-HESS 2019)*. Atlantis Press, 2020. 10.2991/assehr.k.200529.202

¹⁸ Khozin, Khozin, et al. "Pengembangan Integrasi Kurikulum." *TADARUS*, 2021. <https://doi.org/10.30651/td.v10i1.9090>

¹⁹ Susanto, Susanto. "The Integration of Digital Literacy in Learning at Islamic Elementary School to Prevent the Students' Deviant Behavior." *Al Ibtida: Jurnal Pendidikan Guru MI 8.2* (2021): 205-221. <http://dx.doi.org/10.24235/al.ibtida.snj.v8i2>

PAI a part of real life that they need. This approach will also eliminate the isolated understanding of PAI, which is often perceived as separate from other sciences. Such an isolated understanding creates the impression that religion deals only with divinity and the hereafter, while scientific knowledge is related only to humans and worldly life. This leads to a very limited understanding of PAI values among students, distancing them from Islam, and fostering a materialistic attitude that accompanies their ambitions to achieve worldly success while neglecting the afterlife.

As outlined in the background above, the researcher has chosen an interesting title for study: "The Integration Model of Islam and Science Learning in Islamic Education and Character Building for Class X at SMK Muhammadiyah 8 Karangasem Paciran."

METHOD

This research is qualitative research of the case study type. This qualitative research uses procedures and techniques for presenting its final results descriptively.²⁰ The aim of this research is to obtain a clear picture of the Integration Model of Islam and Science Learning in Islamic Education and Character Building for Grade X at SMK Muhammadiyah 8 Karangasem Paciran.

The qualitative data analysis used in this research consists of words rather than numbers, arranged into broad themes. In analyzing the data after it is collected, the researcher uses inductive, deductive, and descriptive methods. From this analysis, general conclusions are drawn based on the available data concerning the research subject.

RESULTS AND DISCUSSION

The teaching model for Islamic Education (PAI) and Moral Education.

Islamic Education and Moral Education are gradually and holistically directed towards preparing students to be spiritually strong, morally upright, and to have an understanding of the fundamentals of Islam and its application in daily life within the framework of the Unitary State of the Republic of Indonesia. In general, Islamic education and moral education are expected to guide students towards: 1) a tendency towards goodness (*al hanifiyyah*), 2) a forgiving attitude (*al sambah*), 3) noble character (*makarim al akhlak*), and 4) compassion for the universe (*rahmat li al alamin*).²¹

According to Zakiah Daradjat, the purpose of Islamic education is to realize the personality of an individual as a complete human being with a pattern of piety. This implies that Islamic education is expected to produce individuals who are beneficial to themselves and their communities, who are happy and enthusiastic about practicing and developing Islamic teachings in their relationship with Allah and fellow human beings, and who can increasingly benefit from this universe for the benefit of life in this world and the hereafter. In teaching

²⁰ Hadi, Abd. *Penelitian kualitatif studi fenomenologi, case study, grounded theory, etnografi, biografi*. CV. Pena Persada, 2021. <http://books.uinsby.ac.id/id/eprint/167>

²¹ Kemendikbudristek Republik Indonesia, *Capaian Pembelajaran Mata Pelajaran Pendidikan Agama Islam Dan Budi Pekerti Fase A - Fase F* (Jakarta: Kemendikbudristek Republik Indonesia, 2022).

Islamic Education and Moral Education, a learning model is needed as a reference from the beginning to the end of the learning process to achieve learning objectives.²²

The learning model for Islamic Education and Moral Education at SMK Muhammadiyah 8 Paciran, based on observations and interviews with various parties, still uses a conventional model, where it tends to be one-way or just lecturing, taking notes, and memorizing. This makes students tend to be bored, not attentive, preoccupied with themselves, and the image of Islamic Education and Moral Education learning is not enjoyable.

Such a model does not necessarily mean it is bad but needs to be supplemented with innovative learning. Because every model still has its own shortcomings, however, Islamic Education and Moral Education teachers are required to try to bring out learning models that are suitable for the learning conditions of children, so that the learning objectives of Islamic Education and Moral Education can be achieved.

Therefore, considering the ineffectiveness of the conventional model in teaching Islamic Education and Moral Education, the integration model of Islam and science is proposed as an effort to avoid the ineffectiveness of learning Islamic Education and Moral Education and to prevent understanding of dichotomy.

The Implementation of the Integration Model of Islam and Science in the subjects of Islamic Education and Moral Education.

Integration requires relationships, unification, synchronization, or mutual acknowledgment among each field of knowledge. No field of knowledge can stand alone without interacting with other fields of knowledge. This acknowledgment, according to Amin Abdullah, can occur or emerge inductively, integrally (merged in discourse), comprehensively (completeness of aspects of review), interdisciplinary in the sense of various perspectives, holistic (comprehensive review), and thematic (discussion according to themes).

M. Amin Abdullah states that contemporary Islamic studies require a multidisciplinary, interdisciplinary, and transdisciplinary approach (fundamental blending of scientific disciplines). Because there is a need for a new culture of thinking that can independently dialogue religion, science, and ethics, it becomes essential in a multi-religious, multicultural life, especially in an era of crises involving religion, science, health, social, cultural, political, legal, and economic issues.²³

In our observation, the integration model of Islam and science in the subjects of Islamic Education and Moral Education (*Budi Pekerti*) for class X at SMK Muhammadiyah 8 Paciran employs a multidisciplinary approach. The multidisciplinary approach refers to various relevant perspectives of science. It involves the development of a science by utilizing the assistance of other sciences, the combination of several disciplines to jointly address specific problems.

²² Zakiah Daradjad, and dkk. *Ilmu Pendidikan Islam*. Jakarta : Bumi Aksara, 2020.

²³ M. Amin Abdullah, *Multidisiplin, Interdisiplin & Transdisiplin : Metode Studi Agama & Studi Islam Di Era Kontemporer* (Yogyakarta: IB Pustaka, 2022).

The multidisciplinary approach builds interconnections between one science and another, each working based on its own discipline and method. This approach seeks to present various disciplines to provide their respective views in solving a problem, without having to combine those disciplines into one unit. In other words, the integration of several sciences in this approach is not deeply involved in the formation of new knowledge or understanding. Therefore, the multidisciplinary approach will result in a multi-image (Multiple Perspectives).²⁴

The implementation of the integration model of Islam and science in the subjects of Islamic Education and Moral Education (*Budi Pekerti*) for class X at SMK Muhammadiyah 8 Paciran can be structured as follows:

1. Planning Stage

The planning stage of integrated learning involves a comprehensive and systematic series of activities to guide teachers in managing the teaching and learning process. In integrated learning, teachers must take the following steps: a) Selecting themes and thematic units: Themes can be chosen by teachers or students considering various factors such as the availability of learning resources and student interests. The selection of themes must meet certain criteria, such as covering multiple subjects and being relevant to student characteristics. In selecting themes, Islamic Education and Moral Education (*Budi Pekerti*) teachers use the holy book as the main source. The Quran is positioned as the primary source or foundation for the integration of knowledge. This integration is aimed at enhancing belief in Allah through the main source, the Quran, supplemented by general knowledge obtained from observation, experimentation, and logical reasoning. b) Planning activities: This step involves selecting resources, activities, and evaluation methods. This is reflected in the teaching modules used as a reference for learning. c) Learning contracts can help establish the direction and content of student activities. It is an agreement between the teacher and the student. Having a learning contract will create conducive learning conditions.

2. Implementation Stage

The implementation stage of integrated learning of Islam and science involves student activities such as gathering information, reading sources, processing information, and preparing reports.²⁵ The culmination or sharing of results is done through process assessment, which includes report presentation, discussion, demonstrations, and evaluation. In this regard, the teacher divides the class into several groups to discuss various types of harmful effects of adultery from various disciplines such as Islamic Education, social sciences, health, psychology, and genealogy, using the theme foundation of QS Al Isra'/17:32. Each group then discusses connecting Quranic verses with various disciplines, and then presents them to the class. This understanding will establish the truth of the Quran as a relevant source to scientific knowledge (science).

3. Evaluation Stage

²⁴ M. Amin Abdullah, *Multidisiplin, Interdisiplin & Transdisiplin: Metode Studi Agama & Studi Islam Di Era Kontemporer* (Yogyakarta: IB Pustaka, 2022).

²⁵ Asrori, Asrori. "The Function of Class Management in The Improving Effectiveness of Learning Aqidah in MTs Al-Hidayah Betojokan Gresik." *Studia Religia: Jurnal Pemikiran Dan Pendidikan Islam* 3.2 (2019). <https://doi.org/10.30651/sr.v3i2.3950>

The evaluation stage includes authentic evaluation types targeting both the process and learning outcomes of students, as well as aspects of student personality such as cognitive, affective, and psychomotor aspects. Evaluation techniques used include observation, interviews, student journals, portfolios, and achievement tests. Evaluation stages are included in both formative assessment and summative assessment, where both are used as references to determine student learning outcomes. Remediation obtained from the learning outcomes is conducted as follows: a) Students who achieve high levels will be provided enrichment activities related to the study topic. Students will explore evidence related to avoiding promiscuity and adultery and identify factors to prevent it. b) Meanwhile, students who encounter difficulties will receive guidance from the teacher through personal or group counseling with simpler activity steps. Students are asked to review the material on avoiding promiscuity and adultery by collecting the obtained review results.

The Implications of Implementing the Integrated Model of Islamic and Science Education in The Subjects of Islamic Education (PAI) and Character Education (Budi Pekerti)

The implications of implementing the Integrated Model of Islamic and Science Education in the subjects of Islamic Education (PAI) and Character Education (Budi Pekerti) for 10th-grade students at SMK Muhammadiyah 8 Paciran are as follows: 1) Enhanced Understanding of Religion and Science: Integrating religious and scientific knowledge enables students to gain a deeper understanding of the principles of Islam and their application in daily life. They will also develop an understanding of scientific concepts and their relevance to religious teachings. 2) Development of Critical Thinking Skills: Through direct involvement in linking Quranic verses with scientific concepts, students will be trained in critical and analytical thinking. They will learn to evaluate information, identify relationships between various concepts, and draw rational conclusions. 3) Strengthening of Ethical and Moral Values: Integrated education in religion and character helps students understand and internalize the ethical and moral values contained in Islamic teachings. They will learn about the importance of behaving according to religious principles and how it impacts their lives and society. 4) Increased Student Engagement: Integrative learning models create an engaging and relevant learning environment for students. They are more involved in the learning process because the material is presented in a context they understand and is relevant to their lives. 5) Preparation for Multicultural Challenges: Through integrative learning, students will become accustomed to various perspectives and understandings of religion and science. This will help them become more open and tolerant of differences, an essential preparation in multicultural societies like Indonesia.

CONCLUSION

The findings of this research elucidate that (1) The teaching model of Islamic Education (PAI) and Character Education (Budi Pekerti) at SMK Muhammadiyah 8 Paciran still utilizes a conventional approach, predominantly one-way with lecture-style teaching, note-taking, and memorization. This leads to student boredom and low engagement in learning. Therefore, innovative teaching methods are needed to enhance effectiveness and student

involvement, enabling PAI and Budi Pekerti learning to achieve its goals; (2) The implementation of the integrated model of Islamic and scientific education in PAI and Budi Pekerti subjects for 10th-grade students at SMK Muhammadiyah 8 Paciran demonstrates a commitment to employing a multidisciplinary and holistic teaching approach. By adopting a multidisciplinary approach, teachers can integrate various disciplines and relate them to Islamic teachings, particularly through the primary use of the holy book Al-Qur'an as the main source. Comprehensive planning ensures that integrated learning accommodates students' interests and needs, while the execution phase involves active student engagement in gathering information and compiling reports. Evaluation not only assesses students' academic achievements but also involves aspects of personality and provides remediation tailored to individual student needs. Thus, this approach not only enhances students' understanding of Islamic teachings and scientific concepts but also facilitates the development of critical thinking skills and the application of ethical values in daily life; (3) The implications of the integrated model of Islamic and scientific education in PAI and Budi Pekerti subjects for 10th-grade students at SMK Muhammadiyah 8 Paciran are highly significant. Firstly, this model encourages students to think critically by connecting Quranic verses with various disciplines, enabling them to understand the relevant relationship between religion and science in daily life. Secondly, students gain meaningful understanding of Quranic verses, reinforcing their belief in the truth of the Quran and broadening their understanding of Islam. Thirdly, the PAI learning environment becomes more conducive as students enthusiastically engage in life-based learning and group work. Thus, this model not only enhances understanding of Islam but also strengthens students' critical skills and learning motivation.

REFERENCE

- Anwar, Saiful, et al. "Konsep Pendidikan Furusiyah Ibnu Qayyim Al-Jauziyyah dan Relevansinya dengan Pendidikan Kontemporer." *PAIDA: Jurnal Pendidikan Agama Islam UNIMUDA* 2.2 (2023): 253-264. <https://doi.org/10.36232/paida.v2i2.4614>
- Arifin, Syamsul, M. Nurul Humaid, and Asrori Asrori. "Menuju Paradigma Baru: Filsafat Sains Dalam Islam." *TADARUS* 12.1 (2023). <https://doi.org/10.30651/td.v12i1>
- Asrori, Asrori. "The Concept of Learning Islamic Education Based on Multicultural in Establishing Religious Moderation." *Proceeding Annual Conference on Islamic Religious Education*. Vol. 2. No. 1. 2022.
- Asrori, Asrori. "The Function of Class Management in The Improving Effectiveness of Learning Aqidah in MTs Al-Hidayah Betojokauman Gresik." *Studia Religia: Jurnal Pemikiran Dan Pendidikan Islam* 3.2 (2019). <https://doi.org/10.30651/sr.v3i2.3950>
- Chanifudin and Tuti Nuriyati, 'Integrasi Sains Dan Islam Dalam Pembelajaran', *Asatiza*, 1.2 (2020), 215. <https://doi.org/10.46963/asatiza.v1i2.77>
- Ferdian, Andry, Rusman Rusman, and Asrori Asrori.. "Philosophy, Education, and Values Religious in Culture Pegon Jaranan Dance". *Nazhruna: Jurnal Pendidikan Islam* 5 (2), (2022), 852-63. <https://doi.org/10.31538/nzh.v5i2.2064>.
- Hadi, Abd. *Penelitian kualitatif studi fenomenologi, case study, grounded theory, etnografi, biografi*. CV. Pena Persada, 2021. <http://books.uinsby.ac.id/id/eprint/167>

- Hambal, Muhammad. "Aqidah Education Main Elements Of Character Building." *International Conference on Islamic and Social Education Interdisciplinary*. Vol. 1. No. 1. 2020.
- Hana Luthfi Alifah, "Model Pembelajaran Integratif Pendidikan Agama Islam Berbasis Sains Al-Qur'an Di SMA Sains Al Qur'an Wahid Hasyim Yogyakarta," *Skripsi* (UIN Sunan Kalijaga Yogyakarta, 2018), 3-4.
- Hehsan, Aminudin, et al. "Digital Muhadathah: framework model development for digital Arabic language learning." *International Conference on Information and Communication Technology for Competitive Strategies*. Singapore: Springer Nature Singapore, 2022. https://doi.org/10.1007/978-981-97-0744-7_2
- Hidayat, Moch Charis, and Sokhibul Arifin. "Integration Science Technology with Islamic Values: Empowering Education Model." *1st Borobudur International Symposium on Humanities, Economics and Social Sciences (BIS-HESS 2019)*. Atlantis Press, 2020. 10.2991/assehr.k.200529.202
- Hidayat, Moch Charis. "Implementation of Cognitive, Affective, Psychomotor Aspect Assessment Case Study at SDN Ngembung Cerme Gresik." *Studia Religia: Jurnal Pemikiran Dan Pendidikan Islam* 4.1 (2020). <https://doi.org/10.30651/sr.v4i1.5272>
- Kemendikbudristek Republik Indonesia, *Capaian Pembelajaran Mata Pelajaran Pendidikan Agama Islam Dan Budi Pekerti Fase A - Fase F* (Jakarta: Kemendikbudristek Republik Indonesia, 2022), 4.
- Kementrian Agama Republik Indonesia, *Al-Qur'an Dan Terjemahannya* (Jakarta: Lajnah Pentashihan Mushaf Al-Qur'an, 2016).
- Khozin, Khozin, et al. "Pengembangan Integrasi Kurikulum." *TADARUS*, 2021. <https://doi.org/10.30651/td.v10i1.9090>.
- Lumbilsa, Abbas. "Improving Creativity and Learning Outcomes Through Team-Assisted Individualization Learning Islamic Education Lessons." *EDUKASI: Jurnal Pendidikan Islam (e-Journal)* 11.2 (2023): 199-213. <https://doi.org/10.54956/edukasi.v11i2.371>
- M. Amin Abdullah, *Multidisiplin, Interdisiplin & Transdisiplin : Metode Studi Agama & Studi Islam Di Era Kontemporer* (Yogyakarta: IB Pustaka, 2022).
- Muhammad Hambal Shafwan, *Instisari Sejarah Pendidikan Islam : Menelusuri Praktek Tarbiyah Dan Dakwah Sejak Diutusnya Rasulullah SAW Hingga Kemerdekaan Indonesia Demi Menyongsong Kembali Kejayaan Pendidikan Islam* (Solo: Pustaka Arafah, 2020),
- Mutaqorribain, Syarifatul, Asrori Asrori, and Rusman Rusman. "The Effect of Teacher's Motivation on Student Learning Activities in Islamic Education Lessons." *Nazhruna: Jurnal Pendidikan Islam* 5.3 (2022): 887-907. <https://doi.org/10.31538/nzh.v5i3.2101>
- Ridlwan, M., and Asrori Asrori. "Problems of Implementation of Islamic Religious Education at Muhammadiyah Junior High School 4 Gadung Surabaya." *International Conference on Islamic and Muhammadiyah Studies (ICIMS 2022)*. Atlantis Press, 2022. 10.2991/assehr.k.220708.039
- Rusman, Asrori, et al. "Education transformation in 5.0 society development era." *AIP Conference Proceedings*. Vol. 2727. No. 1. AIP Publishing, 2023. <https://doi.org/10.1063/5.0141657>
- Rusman, Asrori. *Filsafat Pendidikan Islam: Pendekatan Filsafat Islam Klasik*. Malang: Pustaka Learning Center, 2020. <http://repository.um-surabaya.ac.id/id/eprint/4460>

- Susanto, Susanto. "The Integration of Digital Literacy in Learning at Islamic Elementary School to Prevent the Students' Deviant Behavior." *Al Ibtida: Jurnal Pendidikan Guru MI* 8.2 (2021): 205-221. <http://dx.doi.org/10.24235/al.ibtida.snj.v8i2>
- Uci Sanusi, 'Integrated Learning Dalam Pendidikan Agama Islam', *Ta'lim*, 12.2 (2014), 163. <https://ejournal.stit-almubarak.ac.id/index.php/DIMAR/article/view/15>
- Undang-Undang Republik Indonesia, 'Sistem Pendidikan Nasional', 20, 2003, 2.
- Wahid, Azhar, et al. "Digital technology for indigenous people's knowledge acquisition process: insights from empirical literature analysis." *International Conference on Information and Communication Technology for Competitive Strategies*. Singapore: Springer Nature Singapore, 2023. https://doi.org/10.1007/978-981-97-1260-1_5
- Zakiah Daradjad, and dkk. *Ilmu Pendidikan Islam*. Jakarta : Bumi Aksara, 2020.