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THE DEVELOPMENT OF A QURAN-BASED SCIENCE CURRICULUM MODEL TO ENHANCE ISLAMIC CHARACTER AT SMP BOARDING SCHOOL ZAD CIANJUR AND SMP BOARDING SCHOOL BAITUL ILMI CIANJUR

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Abstract
This study aims to develop and implement a Quran-based science curriculum model at SMP Boarding School Zad Cianjur and SMP Boarding School Baitul Ilmi Cianjur. The curriculum is designed to enhance students' scientific understanding while strengthening their Islamic character. The results of the study indicate that the Quran-based curriculum is effective in improving students' cognitive abilities in science, with an average score increase of 25% on the post-test compared to the pre-test. Furthermore, this curriculum also successfully enhances students' Islamic character, including honesty, responsibility, and environmental awareness. Positive changes were observed in students' daily behaviors, such as increased discipline and concern for the cleanliness of the school environment. Teachers reported that the implementation of this curriculum not only improved students' academic abilities but also helped shape their noble character. However, there were challenges in the curriculum implementation, such as time constraints and difficulties in connecting scientific concepts with Quranic values. Based on these findings, the study recommends continuous teacher training, the development of more comprehensive teaching materials, and adjustments to teaching time allocation to maximize the integration of science and religion in learning.

Keyword: Quran-based Science Curriculum, Islamic Character, Islamic Education.

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INTRODUCTION

Education is one of the main pillars in shaping the quality of human resources, which in turn influences the progress of a nation. In the context of education in Indonesia, character education and religious education are two very important aspects in addressing social issues, such as increasing violence among students, drug abuse, and moral degradation in various communities. These problems are becoming more concerning, considering the influence of global culture, which tends to distance the younger generation from the religious values that are the moral foundation of the Indonesian nation. Therefore, it is high time for education in Indonesia, especially in Islamic-based schools, to start integrating religious values into every subject, including science education (Andika et al., 2016).

Science has traditionally been taught in many schools with a highly cognitive and technical approach. This approach prioritizes understanding scientific concepts and natural phenomena without much connection to moral or spiritual values. However, in Islam, science is not only seen as knowledge for understanding the universe but also as a means to recognize the greatness of Allah SWT. Many verses in the Qur'an contain scientific explanations about various natural phenomena that should serve as a foundation for science education in Islamic-based schools (Al-Qur'an, 2012). Therefore, it is important to develop a science curriculum based on the values of the Qur'an, which not only provides academic knowledge but also shapes the Islamic character of students.

Character education in Indonesia, especially at the junior high school level, often focuses on the formation of moral attitudes taught through religious studies and civic education subjects. However, this character formation is often separated from science education. In fact, science and religion education in Islam are closely related. The Qur'an teaches that all of God's creations are signs of His greatness, and knowledge of the universe is part of the effort to understand and draw closer to Allah. Therefore, science education integrated with Islamic values will not only improve students' understanding of the physical world but also strengthen their character as responsible, honest, and environmentally conscious individuals (Jazadi, 2015).

The importance of education based on Islamic values is even more evident in the context of Islamic schools, such as boarding schools. Boarding schools have a unique characteristic in shaping students' character, which is stronger compared to general schools (Kaimuddin, 2015). In a boarding school environment, religious education and character are not only taught through the formal curriculum but also through daily practices deeply influenced by peer relationships and teachers. SMP Boarding School Zad and SMP Boarding School Baitul Ilmi Cianjur are two examples of schools committed to strongly integrating Islamic values into their teaching, not only through religious lessons but also in other subjects, including science.

This Qur'an-based curriculum model can provide a practical example of how science education can be developed with a more holistic approach, which not only emphasizes academic results but also the development of students' Islamic character (Iqbal et al., 2024).

The main challenge in developing a Qur'an-based science curriculum is how to integrate empirical and objective scientific knowledge with religious values that are normative and spiritual. In practice, most science teachers in Indonesia are not accustomed to connecting scientific concepts with the moral values contained in Islamic teachings. This is due to several factors, such as the lack of training for teachers in developing curricula that integrate both science and religion, as well as the limited teaching materials that systematically connect these two fields (Aprianto & Wahyudi, 2023). Therefore, this study aims to develop a Qur'an-based science curriculum model that can be implemented at SMP Boarding School Zad and SMP Boarding School Baitul Ilmi Cianjur, and to analyze the effectiveness of this curriculum model in enhancing the Islamic character of students (Rofi & Latifah, 2023).

The curriculum model developed in this research refers to several proven curriculum development theories, such as Ralph W. Tyler's theory, which emphasizes the establishment of educational goals as the initial step in designing a curriculum, and Hilda Taba's theory, which emphasizes the importance of analyzing students' needs in curriculum development (Tyler, 1949; Taba, 1962). Additionally, John Dewey's theory of experiential learning also serves as a basis for developing active and participatory learning methods, allowing students not only to understand scientific concepts but also to relate them to Islamic moral values (Dewey, 1938). In this context, the Islamic character education taught in this Qur'an-based science curriculum aims to shape students who are not only academically intelligent but also possess character in line with Islamic teachings, such as honesty, responsibility, environmental awareness, and exemplary behavior.

The importance of developing this Qur'an-based science curriculum is not only seen from an academic and moral perspective but also as a response to the challenges of the times. Globalization and the rapid advancement of information technology have a significant impact on society, including in the field of education (Dosen et al., 2016). This advancement brings convenience but also presents challenges in maintaining moral values that align with religious teachings. Therefore, education that integrates science with religious values is becoming increasingly important so that the younger generation can understand and apply knowledge in daily life while adhering to strong moral principles (Arifim, 2009).

The aim of this research is to develop a Qur'an-based science curriculum model that can enhance the Islamic character of students at SMP Boarding School Zad and SMP Boarding School Baitul Ilmi Cianjur. This curriculum model is expected to serve as an alternative for other Islamic schools that wish to effectively integrate religious education with science education. By developing this model, it is hoped that students will not only gain valuable scientific knowledge but also build strong character in line with Islamic teachings. This study also aims to provide insights for curriculum developers and other educators about the importance of integrating religious values into science education, and to offer recommendations for Islamic schools in implementing a Qur'an-based curriculum.

RESEARCH METHODOLOGY

This study uses a Research and Development (R&D) approach to develop a Quran-based science curriculum model that can enhance the Islamic character of students at SMP Boarding School Zad Cianjur and SMP Boarding School Baitul Ilmi Cianjur. The R&D approach was chosen because its aim is to design and test a curriculum model that is effective in science education and in fostering Islamic character. According to Borg and Gall (2003), R&D is a systematic procedure for developing and evaluating educational products, in this case, a Quran-based curriculum model.

Research Design

The research design consists of several stages carried out consecutively:

1. **Preliminary Study**: In this stage, an analysis is conducted on the existing science curriculum at both schools, which are the subjects of this research. The aim is to identify gaps in integrating Islamic values with the existing science content.
2. **Curriculum Design Formulation**: Based on the findings from the preliminary study, the researcher formulates a Quran-based science curriculum design that integrates scientific knowledge with Islamic values. This curriculum is designed with reference to Ralph W. Tyler's theory on educational objectives, Hilda Taba's approach to student needs analysis, and John Dewey's experiential learning approach (Tyler, 1949).
3. **Expert Validation**: After the curriculum design is completed, it is validated by experts in curriculum and Islamic education to ensure that the developed curriculum model adheres to academic standards and Quranic values. This validation aims to gather feedback from experts regarding the curriculum's relevance, completeness, and effectiveness.
4. **Limited Trial**: In this stage, the validated curriculum is applied in a small class as a pilot phase. The aim is to identify potential issues in the curriculum's implementation and gather feedback from both students and teachers.
5. **Wide Trial**: After the limited trial, the curriculum is extended to more classes to obtain more representative data on the effectiveness of the curriculum in improving students' scientific understanding and Islamic character.
6. **Evaluation**: Evaluation is conducted after the curriculum implementation to assess the impact of the Quran-based science curriculum on academic learning outcomes and the development of students' Islamic character. This evaluation uses pre-tests and post-tests to measure changes in students' cognitive abilities and Islamic character.

Data Collection

Data is collected using various techniques, including observation, interviews, questionnaires, and tests. Observations are conducted to assess student involvement in learning activities and behavioral changes. Interviews are held with teachers and students to gather their perspectives on the curriculum's effectiveness. Questionnaires are used to measure the dimensions of

students' Islamic character before and after the curriculum implementation, while tests are used to assess students' cognitive abilities in science subjects (Sugiyono, 2011).

Research Finding

This study aims to develop and implement a Quran-based science curriculum model to enhance the Islamic character of students at SMP Boarding School Zad Cianjur and SMP Boarding School Baitul Ilmi Cianjur. During the curriculum development and implementation stages, data obtained from various data collection methods—such as observation, interviews, questionnaires, and tests—were analyzed to assess the impact on improving students' academic abilities and the formation of their Islamic character through learning. Based on the research findings, it was found that this Quran-based curriculum is effective in improving students' scientific understanding and shaping their Islamic character.

1. Description of Research Location and Subjects

His research was conducted at two boarding schools located in Cianjur, namely SMP Zad Cianjur and SMP Baitul Ilmi Cianjur. These two schools were selected because they have a strong vision and mission in integrating Islamic values into the learning process, including science. SMP Zad Cianjur and SMP Baitul Ilmi Cianjur have outstanding programs in Tahfidzul Qur'an education, and both are committed to improving the quality of education through a curriculum that focuses not only on academic results but also on shaping the Islamic character of students. The data sources for this study came from students, teachers, and documents related to the curriculum applied at these schools.

2. Pre-Test and Post-Test Results

One of the main instruments used to measure the impact of the curriculum was a test conducted before (pre-test) and after (post-test) the implementation of the Quran-based science curriculum. This test aimed to measure changes in students' cognitive abilities in science. The pre-test results showed that most students had limited understanding of the basic scientific concepts being taught, with lower average scores in the initial test. However, after the implementation of the Quran-based curriculum, which integrated spiritual values into science learning, the post-test results showed a significant improvement in understanding scientific concepts. The average post-test score showed an increase of about 25% compared to the pre-test scores, indicating that students not only improved their knowledge in science but also connected scientific knowledge with moral and spiritual values in Islam. These results confirm that the Quran-based curriculum can enhance students' cognitive abilities in science, in line with the curriculum's goal of focusing not only on intellectual aspects but also on strengthening students' Islamic character.

3. Improvement in Students' Islamic Character

In addition to cognitive abilities, this study also assessed the impact of the curriculum on the development of students' Islamic character. Based on questionnaires distributed to students before and after the curriculum implementation, a significant improvement was found in the dimensions of Islamic character, such as honesty, responsibility, environmental awareness, and gratitude. Students showed positive changes in their daily behaviors, reflected in increased discipline, gratitude, honesty in exams, and concern for the surrounding environment. For example, in observations conducted at SMP Zad Cianjur, students who previously violated school rules, such as being late or not paying attention to classroom cleanliness, showed changes after participating in Quran-based learning. They are now more active in participating in school activities, more concerned about maintaining cleanliness, and more likely to help their peers. This shows that Islamic character traits, such as a sense of responsibility and concern for the environment, can develop positively through a curriculum that not only teaches knowledge but also applies Islamic moral values to students' daily lives.

Interviews with teachers and principals also strengthened these findings. They reported that students who followed the Quran-based curriculum showed more mature attitudes in facing academic and social challenges at school. They were better able to work together in groups, more caring towards others, and showed a high sense of responsibility in completing school tasks. Teachers at both schools reported that students who implemented this curriculum were not only more academically intelligent but also displayed noble character reflected in their actions.

4. Curriculum Evaluation and Teacher Feedback

In the evaluation stage, teachers provided valuable feedback for curriculum improvement. Most teachers acknowledged that they felt more confident in teaching science subjects after being trained to integrate Islamic values into their lessons. However, they also expressed challenges in connecting some scientific concepts with the highly complex teachings of the Qur'an, especially in more technical topics. Teachers suggested that more teaching materials that integrate science and the Qur'an be provided to help them teach these concepts in a way that is easier for students to understand. Additionally, teachers recommended that more time be allocated for teaching practices on integrating religion and science in this curriculum. This would help them better prepare for challenges that may arise during the learning process. Comprehensive Quran-based teaching books and learning materials are also needed to support the smooth implementation of this curriculum in the classroom.

5. Challenges in Curriculum Implementation

Although the Quran-based curriculum has proven effective in improving students' cognitive abilities and Islamic character, there are some challenges in its implementation. One of the biggest challenges is the limited time available to integrate science and the Qur'an into a single lesson session. Some teachers reported that, despite their efforts to connect science content with Qur'anic teachings, the limited duration often made it difficult for them to develop deeper

material. Additionally, there are also challenges related to adjusting science materials that have been taught in schools with the Islamic values contained in the Qur'an. Some scientific topics that are highly technical and based on empirical knowledge are difficult to directly link to Islamic moral teachings. Therefore, further efforts are needed to develop teaching materials that are more accessible for teachers to use in teaching scientific concepts with more integrated Islamic values.

DISCUSSION

The research findings indicate that the Quran-based science curriculum developed and trialed at SMP Zad Cianjur and SMP Baitul Ilmi Cianjur had a significant impact on both students' scientific understanding and the formation of their Islamic character. This discussion will delve deeper into the research findings, including an analysis of the integration of science and Islamic values, challenges faced during curriculum implementation, and practical implications for the development of religious-based education in Islamic schools.

1. Integration of Science and Islamic Values in the Curriculum

One of the main objectives of this research was to develop a Quran-based science curriculum that not only provides scientific knowledge but also strengthens students' Islamic character. The research confirms that integrating science with Quranic values is not impossible, despite initial beliefs that these two fields are separate. The Qur'an, as the revelation from Allah SWT, provides guidance on all aspects of life, including understanding the universe and the scientific laws within it. In this context, science is viewed as a tool to bring one closer to Allah by deepening our understanding of His creations (Rohmah, 2021). In practice, this curriculum integrates Quranic values into each science topic taught. For example, in the Natural Sciences lesson, students are taught about human life and nature by referencing Quranic verses that explain the creation of living beings and the relationship between humans and the environment. Concepts of strength and energy can be explained by referring to verses that describe God's power in creating the universe. This process of integrating science with the Quran changes students' perspectives on the subject, making it not only scientific knowledge in isolation but a unified whole that complements each other in understanding the greatness of Allah SWT (Nuryana, 2019). Incorporating moral Islamic values such as honesty, responsibility, and care for the environment into the Quran-based science curriculum has also been proven to enrich students' learning experiences (Pendidikan et al., 2025). For instance, in ecosystem learning, students not only learn about the relationship between living beings and the environment but are also taught to preserve and care for the environment as a form of devotion to Allah. This aligns with the Quranic message that reminds humans to maintain the earth and all its contents (Al-Baqarah: 164). Thus, students not only master scientific concepts but also understand and internalize religious values in their daily lives.

2. Improvement in Students' Cognitive Abilities

The results from the pre-test and post-test show that students who followed the Quran-based science curriculum experienced a significant improvement in their scientific understanding. At the beginning of the study, students had limited understanding of basic scientific concepts, but after following the Quran-based learning, the post-test results showed an increase of about 25% in their cognitive abilities. This improvement not only includes understanding natural phenomena but also their ability to connect scientific knowledge with Islamic spiritual and moral concepts.

This improvement shows that integrating science and religion in the curriculum can enrich students' learning. With a clear connection between science and the Qur'an, students become more interested and motivated to study scientific concepts, as they feel that the knowledge they acquire is not only useful for worldly life but also to get closer to God. This intrinsic motivation is a key factor in improving students' scientific understanding.

Additionally, the use of active and participatory learning methods, such as group discussions, experiments, and problem-based projects, also contributed to the improvement of students' cognitive abilities. John Dewey, in his theory of experiential learning, states that students will more easily understand scientific concepts when they are directly involved in the learning process (Dewey, 1938). In this research, students were given the opportunity to conduct scientific experiments that linked theory to practice, so they not only understood scientific concepts theoretically but also learned to apply them in everyday life.

3. Development of Students' Islamic Character

One of the main findings of this study is the significant improvement in students' Islamic character after following the Quran-based science curriculum. Assessment of students' Islamic character was conducted through questionnaires measuring dimensions such as honesty, responsibility, environmental awareness, exemplary behavior, and sincerity. The results of the questionnaires showed that students who followed this curriculum showed positive changes in all the measured dimensions of Islamic character.

Students not only showed improvement in discipline and responsibility in academic tasks but also demonstrated improvement in social ethics and environmental awareness. For example, students at SMP Zad Cianjur, who were previously indifferent to the cleanliness of their surroundings, showed changes in their behavior after following the Quran-based learning. They became more active in maintaining the cleanliness of the school environment and reminded their peers not to litter, aligning with the Quranic teachings to preserve cleanliness and the environment (Al-Baqarah: 164).

Students' honesty also showed a significant increase. In interviews with teachers and students, many reported that students were now more honest during exams and more open in admitting their mistakes. This shows that the integration of Islamic values into the science curriculum not only changed students' perspectives on science but also strengthened their moral character as individuals with good ethics.

4. Challenges in Curiiculum Implementation

Although the Quran-based science curriculum has proven effective in improving students' cognitive abilities and Islamic character, several challenges were encountered during its implementation. One of the main challenges is the limited time available to integrate science and the Qur'an in a single learning session. Many teachers reported that the limited duration made it difficult for them to delve deeply into each concept, both in scientific aspects and the associated Islamic values.

Furthermore, the lack of teaching materials that integrate science and Quranic values also posed a challenge in implementing this curriculum. Although the existing teaching materials already combine science and Islamic teachings, some scientific concepts were still difficult to connect directly with Quranic verses. Therefore, further development of teaching materials that are more systematic and easier for both teachers and students to understand is needed (Hafizatul et al., 2024).

5. Implications for Curriculum Development in Islamic Schools

Based on the findings of this study, the development of a Quran-based science curriculum has a very positive impact on Islamic character education. Such a curriculum not only enhances students' understanding of science but also helps them develop character in line with Islamic teachings. Therefore, this research makes a significant contribution to the development of curriculum in Islamic schools, particularly at the junior high school level. As a next step, there needs to be an effort to develop more complete and structured teaching materials that integrate science with Quranic values in a more systematic manner. Teachers also need to receive intensive training in developing teaching methods that can link science and religion more deeply (Lutfiah et al., 2020). This way, the curriculum can be more easily implemented in other Islamic schools.

CONCLUSION

This study developed and implemented a Quran-based science curriculum at SMP Zad Cianjur and SMP Baitul Ilmi Cianjur, which proved effective in enhancing students' academic abilities and Islamic character. This curriculum not only improved students' understanding of science but also reinforced Islamic moral and ethical values, such as gratitude, honesty, responsibility, and environmental awareness. The research findings show that the integration of science and the Qur'an enriched students' learning experiences, making them not only more academically intelligent but also more responsible in their daily lives. However, there were some challenges in its implementation, such as limited time and the lack of teaching materials that systematically integrate scientific concepts with Islamic teachings. Therefore, this study recommends the development of more comprehensive teaching materials and further training for teachers to address these obstacles. Overall, this Quran-based science curriculum can serve as an effective model to be implemented in other Islamic schools, with adjustments to their local contexts.

REFERENCES

Andika, D., Khairsyaf, O., & Pertiwi, D. (2016). Hubungan Pengetahuan Dengan Kejadian Merokok Pada Pelajar SMPN 1 Pariaman. *Jurnal Kesehatan Andalas*, *5*(2), 361–364. https://doi.org/10.25077/jka.v5i2.522

Aprianto, D., & Wahyudi, A. (2023). Integrasi Manajemen Kurikulum , Dan Teknologi Pendidikan Dalam. *Jurnal Review Pendidikan Dan Pengajaran*, *6*(3), 4414–4424.

Arifim, Z. (2009). Jurnal Pendidikan Islam. *Jurnal Pendidikan Serambi Ilmu*, *1*(1), 89–103.

Dosen, F., Islam, J. K., Tarbiyah, F., & Walisongo, I. (2016). *Manajemen Mutu Pesantren; Ikhtiar Menjawab Tantangan Global*. *04*(1), 10–23.

Hafizatul, S., Zain, W., Wilis, E., & Sari, H. P. (2024). *Peran Pendidikan Islam dalam Pembentukan Karakter Masyarakat Berbasis Nilai-Nilai Al-Qur ' an dan Hadis*. *2*, 199–215.

Iqbal, M., Panjaitan, A. Y., Helvirianti, E., Nurhayati, N., & Ritonga, Q. S. P. (2024). Relevansi Pendidikan Karakter dalam Konteks Pendidikan Islam: Membangun Generasi Berkarakter Islami. *Indonesian Research Journal on Education*, *4*(3), 13–22. https://doi.org/10.31004/irje.v4i3.568

Jazadi, I. (2015). Character-Based curriculum and Textbook Development in Indonesia: A Critical Review. *SOSIOHUMANIKA: Jurnal Pendidikan Sains Sosial Dan Kemanusiaan*, *8*(2), 313–330.

J., Dewey. "Dewey's Vision in," no. 1916 (2022).

Kaimuddin, K. (2015). Boarding School: Model Pendidikan Transformatif. *Society*, *6*(2), 11–21. https://doi.org/10.20414/society.v6i2.1470

Lutfiah, I., Arsyad, M., & Helmi, H. (2020). Pelaksanaan Pendekatan Saintifik dalam Pembelajaran Fisika di SMA Negeri Kabupaten Maros. *Prosiding Seminar Nasional Fisika PPs UNM*, *2*, 142–145.

Nuryana, Z. (2019). *Kurikulum 2013 dan Masa Depan Pendidikan Agama Islam di Indonesia*. https://doi.org/10.31219/osf.io/4j6ur

Pendidikan, P., Integrasi, I., Pendidik, K., Parawansah, S. H., & Sofa, A. R. (2025). *Pendekatan Komprehensif Berbasis Al-Qur ' an dan Hadits dalam akademik , tetapi juga yang memiliki karakter dan akhlak mulia (Achmad , 2024). Dalam rangka*. *1*.

Rofi, I., & Latifah, A. (2023). *Strategi Pendidikan Agama Islam Dalam*. *02*(01), 412–420.

Rohmah, I. F. (2021). Pengembangan Kurikulum Sains Berbasis Al-Qur'an untuk Mewujudkan Integrasi Ilmu Pengetahuan dengan Penguatan Kompetensi Spiritual. *Mufham: Jurnal Ilmu Al-Qur'an Dan Tafsir*, *1*(1), 43–56. http://ejournal.stai-almuhajirin.ac.id/index.php/mufham/article/view/12%0Ahttps://ejournal.stai-almuhajirin.ac.id/index.php/mufham/article/download/12/9

Sugiyono. *Metode Penelitian Kombinasi (Mixed Methods)*. Bandung, 2011.

Tyler, Ralph W. "Basic Principles of Curriculum and Instruction. In Curriculum Studies Reader E2." *Curriculum Studies Reader E2*, 2013. https://www.taylorfrancis.com/chapters/edit/10.4324/9780203017609-14/basic-principles-curriculum-instruction-ralph-tyler.