

Integrating Religious Character and Science Education at SMK KHAS Kempek: A Qualitative Study on Holistic Educational Approaches in Indonesia

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ABSTRACT

Purpose – This study explores the integration of religious character education with science education at SMK KHAS Kempek, Cirebon, highlighting the necessity for a holistic educational approach that fosters both moral and academic competencies in students. The research aims to fill the gap between theoretical frameworks and practical implementation in character education, by focusing on the integration of religious and scientific values within a modern educational setting.

Design/methods/approach – employing a qualitative and descriptive methodology, this study involved field research at SMK KHAS Kempek, combining interviews, participative observations, and documentary analysis. Primary data was collected through interviews with school administrators, teachers, and students, while secondary data was gathered from academic journals and online articles relevant to religious character and science education.

Findings – The results indicate that the integrated educational model at SMK KHAS Kempek is effective in enhancing both the moral and intellectual development of students. The study found that religious teachings integrated with scientific concepts help create a learning environment conducive to both spiritual and empirical understanding. This approach not only aligns with national educational goals but also provides a framework that can be adapted by other educational institutions in Indonesia.

Research implications – This study suggests that other Indonesian educational institutions can adopt a similar integrated educational model to achieve comprehensive character development and effective scientific learning. However, further research is needed to understand the broader application of this approach in different educational contexts.

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1. Introduction

Research on religious character has evolved since the late 20th century, beginning with the introduction of pesantren-based schools in Indonesia, as exemplified by the inauguration of SMP Negeri 3 Peterongan Jombang and the establishment of public schools with pesantren bases in Banyuwangi (Ministry of Education and Culture, 1995; 1997). This research has been strengthened by Rahmawati et al. (2021), who identified an increasing interest in the religious character in education, and further deepened by Ansori et al. (2022), who emphasized the importance of a multidimensional approach to the development of religious character, including aspects of belief, worship, and pious behavior.

In the literature, the formation of religious character is often associated with education in pesantren, where educators and role models, such as kiyai or murobbi, play a crucial role in the transmission of religious values (Ansori et al., 2022). Khotimah (2017) and Fahmi (2022) highlighted



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the importance of planning and implementing religious character education in schools, focusing on values that support the relationship between students and their Creator.

However, previous research often faces methodological and theoretical limitations. For example, many studies tend to separate religious education from scientific contexts and lack integration between religious and scientific values (Putra et al., 2023). This creates a knowledge gap, particularly in applying religious values effectively in character education in modern schools.

Based on these limitations, this study aims to bridge the gap between theory and practice in religious character education by focusing on the integration of science and religion. Related research has been conducted by Nasution et al. (2023), Achmad (2021), and Qolbiyah et al. (2023), who found that the integration of religious and scientific values is essential for creating holistic education. However, few studies have examined the implementation of this integration in the context of pesantren-based schools, such as SMK Kempek Cirebon.

Therefore, this research aims to analyze how the integration of religious character education and science can be implemented at SMK Khas Kempek Cirebon and assess its impact on student character development. This objective supports the national educational function as regulated in Law No. 20 of 2003 concerning the National Education System, which is to develop capabilities and form the character and civilization of a dignified nation. Through this analysis, the research is expected to provide new insights into integrated approaches in character education that could serve as a model for other educational institutions in Indonesia.

2. Methods

This research employs a qualitative design with a descriptive approach, where data analysis is performed by describing or illustrating the collected data as it is without intending to generalize findings (Sugiyono, 2019). The study also integrates library research methods, where primary data is gathered from books and literature relevant to the topics discussed, especially those related to religious character education and the integration of science in education.

Field research was conducted at SMK KHAS Kempek, chosen because it allows research under natural object conditions (Sugiyono, 2019). This qualitative research aims to gain a deep understanding of the influence of the integration of religious character education and science on curriculum development and student interest at SMK KHAS Kempek, exploring the real meaning of the collected data.

Data in this study were collected through various sources, with primary data obtained from direct interviews with the principal, teachers, and students at SMK KHAS Kempek. Secondary data were obtained from journals, online articles, and documentation about the curriculum implemented at this school. All this data will be analyzed to obtain a comprehensive view of the implementation and outcomes of the integration of religious character education with science.

Data collection techniques include in-depth interviews, participative observation, and documentation. In-depth interviews are used because they allow for the collection of detailed and personal information, while participative observation helps in understanding the educational context at SMK KHAS Kempek naturally. Documentation, including recordings and notes from school activities, is used to complement the data obtained and strengthen research findings.

The validity of data is checked through triangulation techniques, which involve combining various sources and methods of data collection. This technique not only strengthens the credibility of the data but also enriches the analysis by providing multiple perspectives on the phenomenon studied (Sugiyono, 2018). The overall methods aim to ensure that data analysis is thorough and reflects the reality occurring in the field, in line with the research objective to analyze and evaluate the integration of religious character education and science at SMK KHAS Kempek.

Table 1. Research Instruments

Research Question	Indicators	Interview Guide (Specific Questions)	Respondents
What is the model of religious character education at the pesantren-based school, SMK KHAS Kempek?	Religious character curriculum, teaching methods, effectiveness evaluation	<ol style="list-style-type: none"> 1. How is the religious character curriculum designed and implemented at SMK KHAS Kempek? 2. What teaching methods are used to impart religious values? 3. How is the effectiveness of this program evaluated? 	<ul style="list-style-type: none"> • Principal • Religious Education Teacher • Students (at least 4, including a gender-balanced representation)
What is the model of science education at the pesantren-based school, SMK KHAS Kempek?	Science curriculum implementation, teaching methods, integration with religious values	<ol style="list-style-type: none"> 1. How is the science curriculum integrated with religious values at SMK KHAS Kempek? 2. In your opinion, what are the most effective science teaching methods? 3. How is student engagement in science activities? 	<ul style="list-style-type: none"> • Principal • Science Teacher • Students (at least 4, including a gender-balanced representation)
What are the outcomes of integrating religious character education and science education at SMK KHAS Kempek?	Effectiveness of integration, student perceptions, impact on learning outcomes	<p>Can you explain some examples of how this integration is carried out in teaching and learning activities?</p> <ol style="list-style-type: none"> 1. Can you provide some examples of how this integration is carried out in teaching and learning activities? 2. What are the students' perceptions of the integration of religious character education and science? 3. Are there significant changes in student learning outcomes following the implementation of this integration? 	<ul style="list-style-type: none"> • Principal • Teachers of Religious education and Science • Students (at least 4, including a gender-balanced representation)
What is the community's perception regarding the implementation of this educational model?	Perceptions of parents, alumni, and the local community	<ol style="list-style-type: none"> 1. What are your thoughts on the quality of education at SMK KHAS Kempek, particularly regarding the integration of religious character education and science? 2. Do you see long-term benefits of this education for your child or alumni? 	<ul style="list-style-type: none"> • Parents of Students • Alumni • Local Community Members

3. Results

3.1. Implementation of Character Education at SMK KHAS Kempek

This research examines the implementation of religious character education at SMK KHAS Kempek, conducted through two main models: structural and mechanical. The structural model leverages school policies and rules to support the creation of a religious environment conducive to character education. Meanwhile, the mechanical model integrates religious values more explicitly through religious programs designed to emphasize the moral and spiritual development of students.

a. Models of Religious Character Education:

Structural Model: SMK KHAS Kempek establishes policies requiring the integration of religious values into learning activities. This policy includes teaching NU (Nahdlatul Ulama) values, which encompass not only academic aspects but also the character development of students through the example of kiyai and scholars.

Mechanical Model: The religious programs at this school are designed to actively develop the affective dimension of students, through activities such as daily religious studies, religious discussions, and social projects that support the practical application of religious learning.

b. Methods of Character Education:

Hiwar (Dialogue) Method: Implemented through dynamic question-and-answer sessions between teachers and students, allowing open dialogue that facilitates a deep understanding of ethical and moral values.

Qishah (Storytelling) Method: The use of stories and narratives to convey moral and ethical lessons, effective in illustrating religious and character concepts in a context easily accessible to students.

3.2. Implementation of Science Education

SMK KHAS Kempek implements science education integrated with religious values, starting science teaching from the basics of the Quran and Islamic sciences before introducing concepts of modern science. This approach ensures that students gain a holistic understanding, combining scientific knowledge and spiritual values.

The integration of character education and science at SMK KHAS Kempek has shown effectiveness in enhancing the quality of education and student development. Programs such as MATA (Masa Ta'aruf) KHAS and other extracurricular activities have become a means to implement religious values in the context of science learning, promoting the development of students' characters balanced between scientific knowledge and moral values.

Observations and interviews indicate that students at SMK KHAS Kempek develop strong academic and ethical competencies. Students learn to appreciate the balance between academic demands and moral-spiritual commitments, reflected in their attitudes toward learning and social interactions.

This research confirms that the integrated approach adopted at SMK KHAS Kempek in combining religious character education with science is effective. This model not only supports the formation of character and a dignified national civilization as mandated by the National Education System Law but also provides a framework that can be adapted by other educational institutions in Indonesia to achieve similar goals.

4. Discussion

The teaching approach at SMK KHAS Kempek, which blends the pesantren curriculum and principles of modern education, underscores the importance of integrating theoretical understanding and practical application in character and knowledge development. According to Abdurrahman An-Nahlawi, an educator must be actively involved in the learning process to achieve effective and efficient goals, where mastery of the material alone is not enough (Dra. Hj, 2018). This aligns with the principles applied at SMK KHAS Kempek, where education focuses not only on intellectual knowledge but also on the moral and character formation of students.

As expressed by Muhammad Shofi, Principal of SMK KHAS Kempek, teaching the values of tawassuth (moderation), tawazun (balance), and tasamuh (tolerance) is an important effort in shaping

students who can adapt and contribute effectively in a multicultural and plural society (Arif et al., 2023). These skills are vital considering the diversity of characters and socio-cultural backgrounds that students will face after graduation.

The direct experience emphasized in science education at SMK KHAS Kempek shows that experiential learning provides a balance between theory and practice, crucial in a pesantren-based education system (Aljuhani, 2024). This implementation not only challenges the demands of the times but also ensures that students gain a holistic and applicable understanding.

According to Sayyid Hossein Nasr, the integration of religious character education and scientific knowledge is key in forming humans as leaders with integrity, as mandated in Q.S. Al-Baqarah verse 30 (Ma'afi, 2019; Syamsul Arifin, 2021). The collaboration between the independent curriculum and the pesantren curriculum at SMK KHAS Kempek has produced a generation that excels not only intellectually but also in high moral integrity.

The strong pesantren culture in the learning process at SMK KHAS Kempek provides a solid foundation for students to not only adapt to the needs of the times but also to fill various roles in society with capabilities that match the fields they choose. This shows that the integrative approach in education, which simultaneously combines religious and scientific values, is highly effective in preparing students for various future challenges.

5. Conclusion

This study explores the implementation of integrated religious character education with science education at SMK KHAS Kempek, Cirebon, demonstrating the importance of a holistic approach in education for shaping both the character and academic competencies of students. Utilizing qualitative and descriptive methodologies, this research provides in-depth insights into teaching practices that blend religious values with scientific knowledge, in line with the curriculum developed at the school.

The results of this study affirm the effectiveness of the applied educational model, where the integration of NU values and explicit religious programs such as daily religious studies and social projects successfully create a supportive learning environment for the moral and spiritual development of students. Furthermore, integrating science within the context of religious values enriches students' understanding, combining empirical knowledge with profound spiritual dimensions.

Recommendations from this study suggest that other educational institutions in Indonesia could adopt a similar integrated education model to achieve comprehensive character formation and effective scientific learning. This aligns with the needs of modern education, which demands not only mastery of academic material but also the formation of strong character values.

However, this research also acknowledges some limitations, particularly related to the scope and depth of character education implementation in different contexts that may differ from SMK KHAS Kempek. Therefore, further studies are needed to understand the application of this approach in a broader and more varied context.

Overall, the integration of religious character education and science offers an innovative model that supports the achievement of Indonesia's national educational goals in shaping character and a dignified national civilization. This model is not only relevant for the development of education in Indonesia but also provides a significant contribution to the global discussion on holistic education that integrates both scientific and spiritual aspects.

Declarations

Author contribution statement

Mintarsih Danumiharja conceived the presented idea. Oman Fathurohman, Iman Subasman, Firman Nugraha, and Ibnu Hamdun developed the theory. All authors discussed the results and contributed to the final manuscript.

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Data availability statement

The datasets generated during and analyzed during the current study are available from the corresponding author upon reasonable request.

Declaration of Interest's statement

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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