INTEGRATION OF RELIGION AND SCIENCE CURRICULUM ON EMPATHY AND COOPERATION ATTITUDES IN ELEMENTARY SCHOOL

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ABSTRACT

This study aims to investigate the impact of integrating religion and science curricula on the empathy and cooperation attitudes of elementary school students. Data collection was done through a questionnaire that has been tested for validity and reliability. The subjects in this study were grade IV and V students at SDIT Al Firdaus Purwodadi, comprising a total of 30 individuals. Hypothesis testing in this study employed multiple linear regression techniques. Based on the results of data analysis, it was found that the integration of religion and science curriculum has a significant effect on student empathy and cooperation. This indicates that the greater the application of integration in learning, the higher the level of empathy and cooperative skills that students possess. The results of this study also reveal that integration-based learning makes a positive contribution to the formation of students' social character.

Keywords: *Curriculum Integration, Religion and Science, Empathy, Collaboration, Elementary Education.*

INTRODUCTION

Basic education plays a vital role in shaping students' character and social skills, as education is one of the most essential aspects of human life. Every Indonesian citizen has the right to receive it and is expected to continue developing it throughout their life. Education is a lifelong process that helps everyone to live and progress. (Rabia et al., 2024). Therefore, having a good education is very important. Education plays a vital role in training and developing Human Resources (HR) who are reliable, able to compete healthily, and also have a sense of community with others. (Nuriyati, 2020).

One important aspect of basic education is the development of empathy and cooperation. Empathy enables students to understand and share the feelings of others, while cooperation encourages them to collaborate to achieve a common goal. Character education integrated with religious values and science can be effective in fostering these two attitudes. For example, Fithriyana (2019) explains that local wisdom-based character learning can foster empathy and strengthen students' social relationships. Additionally, Susanti (2024) found that character education programs have a significant impact on the development of empathetic attitudes in elementary school students.

Thus, the integration of religion and science curriculum that emphasizes moral values and critical thinking can help students understand concepts holistically and build a strong attitude of empathy and cooperation. In addition, science and religion are also important. Science and religion form a unified, interrelated field of study. Some scientists argue that science and religion occupy their respective positions, as the field of science relies on data supported by experimental evidence to establish the truth of science. (Arifin et al., 2022). The integration of religion and science curricula can be an effective strategy for developing students' empathy and cooperation. The religion curriculum emphasizes moral and spiritual values, whereas the science curriculum focuses on critical and analytical thinking. (Helzi et al., 2024). The integration of the two can help students understand the concepts of religion and science holistically and build an attitude of empathy and cooperation.

In its application, integrative learning has several positive impacts. One of them is the formation of student characters who are not only academically intelligent but also possess religious attitudes, empathy, and the ability to work together. This is supported by research and penelitian (Nurjanah, 2019), which demonstrates that thematic teaching materials incorporating Islamic values and science can enhance religious character and foster social integration among students. However, integrative learning also has its challenges. Khusna's research (2018) states that the integration between science and the Qur'an requires teacher readiness, adequate learning resources, and in-depth understanding so that there is no methodological conflict between scientific approaches and spiritual values; if not managed properly, learning can also be biased or even lose the essence of one of the experts.

In this modern era, the integration of religion and science has become a subject that attracts the attention of many people. This is inseparable from the understanding that religion and science, despite having different fields, actually complement each other and cannot be separated. (Haikal & Anwar, 2024). The connection between religion and science is also emphasized by M. Quraish Shihab, who states that science accelerates humans in achieving their goals, while religion determines the direction to follow. This thought is in line with Einstein's expression that "science without religion is blind, and religion without science is lame." (Sayekti & Kinasih, 2017) .

Thus, the attempt to connect and integrate science and religion does not necessarily mean unifying or even mixing, because the identity or character of each entity does not have to be lost, or, as some argue, must be maintained (Arifudin, 2016). Research that has been conducted by (Ridwan Daulay, t.t.) argues that what is felt by countries in the western world that are known to be sophisticated and advanced in the field of science and technology, they are moved and begin to realize the need for a review of the dichotomism of science that is detached from the values they have initially developed, especially religious values.

While research from (Robby dkk., 2022) they argue that religion and science are related and must be integrated, science and religion are a combination of concept approaches, process skills, inquiry and discovery. Thus, science and religion cannot be separated for a scientist. In addition, research from (Sulaiman, 2020) argues that the development of science requires a religious backing so that its growth does not end in disaster, the integration of science and religion will produce transcendent science, while being supported by empirical and rational truth as the main benchmark for scientific truth.

This research has its uniqueness compared to previous studies that discuss the integration of religion and science. This research not only explains the concept of integration theoretically or philosophically, but also directly tests the effect of integrating faith and science curriculum on students' empathy and cooperation attitudes at SDIT Al-Firdaus Purwodadi. While research, such as that conducted by Ridwan Daulay (t.t.), highlights the issue of the dichotomy of science in the Western world and the urgency of integrating religious values in the development of science, this study makes an empirical contribution by measuring the real impact of curriculum integration on students' social character. Robby et al.'s research (2022) does raise the importance of integrating conceptual approaches between religion and science in the learning process. Still, it has not specifically examined the affective impact of this integration on students. Sulaiman (2020) focuses more on the urgency of the transcendental foundation in the development of science, but has not yet directly addressed the practice area of basic education.

In this context, the research conducted by the author serves as confirmation of theories of scientific integration proposed by figures such as M. Quraish Shihab and Albert Einstein, which emphasize the importance of unity between religion as a determinant of direction and science as a tool to achieve it. Moreover, the findings suggest that combining a religion and science curriculum can have a positive impact on shaping students' social character, particularly in aspects such as empathy and cooperation, both of which are essential in social life. Thus, this study provides empirical evidence that science integration in the context of basic education not only improves cognitive aspects but also makes a real contribution to the development of harmonious social attitudes. This supports Iis Arifudin's (2016) idea that the integration of religion and science does not require the elimination of their respective identities, but instead needs to be harmoniously combined to form intellectually and spiritually complete individuals.

LITERATURE REVIEW

A. Integration

Etymologically, "integration" is an English word derived from "integrate," which is then adapted into Indonesian as "integration," meaning to fuse, merge, or unite into a

unified whole. Therefore, "integration" implies perfection or the whole, namely the process of adjusting between different elements. (Nuriyati, 2020).

Muhammad Natsir first developed the idea of integrating science. He saw that those who study only religious science and those who study only world science are both far from their religion. According to the Al-Qur'an, in the letter Al-Qashash, verse 77, Allah commands us to live in balance. Thus, integration is the union between the science of religious values (in this case, Islam) and the broader field of science. (Nuriyati, 2020).

The integration of religion and science curriculum in this study is based on the integrative-interconnective theory developed by Muslim thinkers such as Azyumardi Azra, Muhaimin, and M. Amin Abdullah, who reject the dichotomy between religious and general sciences (Ardiansyah & Ratnasari, 2023). This approach suggests that the two disciplines should be integrated into a mutually reinforcing educational system, where science is taught not only as rational knowledge but also as a means to understand and appreciate the greatness of God. In its implementation, the curriculum is designed to integrate religious values into science learning and vice versa, presenting religious material that is contextualized in relation to scientific phenomena. This theory is reinforced by the value-based character education approach, which emphasizes the importance of learning that integrates cognitive, affective, and spiritual aspects as a whole. In addition, Vygotsky's social constructivist theory also underlies this integration process, as it emphasizes that learning takes place effectively through meaningful social interactions, including those that incorporate religious and social values such as empathy and cooperation. Thus, the curriculum integration strategy in this study aims not only to improve mastery of academic material but also to instill moral values and character traits that shape students' personalities holistically (Robyy et al., 2020).

B. Religious Curriculum

The religious education curriculum in Indonesia is an integral part of the national education system, which aims to form learners to become people of faith, devoted to God Almighty, and with noble character. Religious education must be taught at all levels of formal education by the religion adhered to by students, as stipulated in Law Number 20 of 2003 concerning the National Education System (Daga, 2021). The religious curriculum

includes materials on faith, worship, morals, as well as an understanding of religious scriptures and history, tailored to students' age of development and educational level.

Structurally, the religious education curriculum in Indonesia is developed by the Ministry of Religious Affairs and harmonized with applicable national curriculum policies, such as the 2013 Curriculum and the Merdeka Curriculum. (Joko Suratno, 2022) . In the Merdeka Curriculum, religious education is directed not only to be textual and dogmatic but also contextual, dialogical, and applicable. Value-based, experiential, and project-based learning approaches are sought to integrate religious values with real-life challenges, such as environmental issues, interfaith tolerance, and technological developments. This aims to strengthen the role of religious education in shaping students' character and social skills (Marzali & dan Kebudayaan, 2017).

However, in its implementation, the religious education curriculum in Indonesia still faces several obstacles. Some of the main challenges include the limited competence of educators in applying active and reflective learning approaches, the disparity in teaching quality between regions, and the prevalence of lecture methods that do not involve active student participation. (Huda & Abduh, 2020). Therefore, there is a need to strengthen teacher training, develop innovative media and teaching materials, and continuously evaluate the achievements of the religious curriculum. (Seror, 2018). These efforts are essential to ensure that religious education not only produces theoretical knowledge of religion but also fosters a deep spiritual and social awareness in students.

C. Sanis Curriculum

In 2024, the science curriculum in Indonesia was strengthened through the implementation of the Merdeka Curriculum, which officially began to be widely implemented at various levels of education. This curriculum places science as a means of developing students' scientific literacy, which includes the ability to think critically, reason logically, and understand and apply scientific principles in everyday life. Science materials are designed to be more contextual and adaptive to global issues such as climate change, health, renewable energy, and digital technology, with the aim that students can respond to the challenges of the times actively and solution-orientedly (Kusumaningrum & Abduh, 2020).

A distinctive feature of science learning in the Merdeka Curriculum 2024 is the use of project-based learning, exploratory, and transdisciplinary approaches. This approach allows students to integrate science knowledge with other subjects in a theme that is relevant to real life. Teachers are encouraged to act as facilitators who guide students through the process of inquiry, experimentation, and reflection, rather than just delivering material. (Desstya, 2016). In addition, learning outcomes not only emphasize the knowledge (cognitive) aspect but also include scientific skills and the formation of scientific attitudes, such as curiosity, objectivity, and concern for the environment and society.

The implementation of the science curriculum in 2024 continues to face various challenges. Some of these issues include the inequality of laboratory facilities between schools, limited teacher resources who have not mastered the scientific approach in depth, and the need to strengthen science literacy at the basic education level. To overcome this, the government, through the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), has developed digital platforms such as Merdeka Mengajar, provided online training for teachers, and increased technology-based interactive learning resources. These efforts are expected to enhance the quality of science curriculum implementation nationwide in Indonesia and produce graduates who are not only academically proficient but also adaptable and innovative in the face of the era of scientific and technological disruption.

D. Empathic Attitude

According to Miftah Thoha (2014: 10), attitudes are behaviors or movements that appear and are displayed in their interactions with the social environment. This interaction is a process of responding to one another, influencing each other, and adjusting to the social environment. Furthermore, according to Mar`at (2014: 21), attitude refers to the level of affection (feeling), both positive and negative, towards psychological objects. Thus, the feeling in responding to an object can be positive, namely feelings of pleasure, acceptance, openness, and others. Meanwhile, according to Sarwono (2014: 201), attitude is a term that reflects a sense of pleasure or displeasure, or mediocre (neutral) feelings from someone towards something. (Nidyawati, 2022).

According to Carl Rogers (in Taufik, 2012), empathy means understanding others as if the individual enters into another person's experience, so that they can feel and

experience as felt and experienced by others, but without losing their own identity. Meanwhile, according to Kohut (in Taufik, 2012), empathy is a process in which a person thinks about another person's condition as if he were in that other person's position. Moreover, according to Sears (in Istiana, 2016), empathy is a feeling of sympathy and concern for others, especially when sharing experiences or indirectly feeling the suffering of others. It can be concluded that empathy is the core of moral emotions that help a person understand the feelings of others. Empathy makes him sensitive to the needs and feelings of others, encourages him to help people in trouble or pain, and requires him to treat people with compassion (Hartati, 2020).

Empathy serves as a crucial step in preventing misunderstandings when communicating. An example is when someone has an appointment to meet with another person, but on the way, an unexpected disaster occurs, such as an accident. (Prasetya & Novitasari, 2024). If empathy is present in his heart, then both of them will decide to reschedule the appointment. It cannot be immediate, given the diverse range of backgrounds. This phase presents an excellent opportunity for students to develop mutual help behavior, which will be beneficial for their future interactions in the broader environment (Mulyawati et al., n.d.).

E. Cooperation

Cooperation is one form of social interaction. According to Abdulsyani (in Sumarto, 2022: 153), Cooperation is a form of social process in which certain activities are undertaken to achieve common goals by helping and understanding each other's activities. Cooperation is also defined as activities carried out jointly by various parties to reach common goals (Assyifa, 2023).

According to Pamudji, cooperation essentially involves two or more parties interacting dynamically to achieve a common goal. In contrast, according to Yulianti (2016), cooperation in learning can be carried out by two or more students who interact with each other, combining their energy, ideas, or opinions within a specific time frame to achieve learning goals as a common interest.

METODOLOGY

In this study, the method employed is quantitative, specifically an explanatory quantitative research design, which is a type of social science research that utilizes quantitative

methods. According to Burhan in his book (Bungin, 2011, p. 29), explanatory quantitative research is defined as research that aims to explain the relationship between two variables to test a hypothesis (Widyaiswara, 2022). The design used in this study is an ex-post facto research design. According to Sugiyono (2015), ex-post facto research is a type of research used to examine or trace back the factors or causes of events under study, where the event has already occurred (Wahdah, 2022).

The population in this study comprises all fourth- and fifth-grade students at SDIT Al Firdaus Purwodadi who follow an integrated learning approach combining science and religion. In this school, integrative learning is implemented through several approaches, such as the thematic approach, which links science concepts, such as ecosystems and energy, with religious values, for example, the idea of khalifah in Islam. In addition, the reflection method is used to help students understand natural phenomena as part of God's signs of greatness, not just objects of scientific study. Another approach applied is a value-based discussion, where students are invited to think critically about the impact of science on social life and the importance of grounding religious values in the application of science.

The sample in this study consisted of 30 students, comprising 15 grade IV and 15 grade V students from SDIT Al Firdaus Purwodadi, who were selected proportionally to represent the population's characteristics in a balanced manner. The sample selection was carried out using purposive sampling technique, which is a non-random method in which the researcher intentionally selects respondents based on specific criteria, such as experience in participating in integrative learning between science and religion thematically for at least six months, activeness in learning activities during the past year, not having severe cognitive barriers, and the ability to understand and answer the questionnaire well (Lenaini & Artikel, 2021). In addition, considerations such as mental and social readiness, academic conditions, ethics, and parental permission, as well as the balance of distribution between grades IV and V, were also the basis for selection. This technique was chosen to ensure that the respondents involved have high relevance to the research objectives, so that the data obtained can be more in-depth and representative of the integrative learning context studied.

In this study, data collection was conducted using three primary techniques: questionnaires, observation, and documentation, ensuring that the results obtained were more accurate and relevant to the research objectives. The questionnaire technique was employed by

distributing a list of written questions to 30 students as respondents to measure the effect of integrating a religion and science curriculum on their attitudes towards empathy and cooperation. This method is considered effective in collecting quantitative data in a relatively short time. The questionnaire was designed to explore the extent to which students perceive the benefits of integrative learning, assess their attitudes of empathy and cooperation in daily life, and determine the correlation between integrative learning and changes in students' social behavior (Iba & Wardhana, n.d.).

The observation technique is used as a complement to obtain natural and objective data through direct observation of student behavior in the classroom. Observation enables researchers to record students' activities in a real-world context without intervention, providing a genuine picture of the impact of integrative learning. Although it has potential bias and requires time, this technique remains relevant because it can capture social dynamics and student behavior in depth (Wani et al., 2024). Additionally, documentation techniques are employed to track historical data related to students' learning histories, attendance, and academic records. This documentation comes from pre-existing written documents and provides additional data support to strengthen findings from questionnaires and historical observations (Kawasati Risky, n.d.).

To analyze the data, this study employed a quantitative approach using SPSS software. The analysis was conducted using descriptive statistical tests and simple linear regression to determine the effect of integrative learning on students' attitudes toward empathy and cooperation (Qomaruddin & Sa'diyah, 2024). Before the analysis was conducted, the research instruments were tested for validity using Pearson's product-moment correlation and reliability through a t-test (if the data were normally distributed) or a Mann-Whitney test (if the data were not normally distributed). In addition, prerequisite tests were conducted, including a normality test using the Shapiro-Wilk method to verify data distribution and a homogeneity test using the Levene Test to assess the similarity of variances between groups. This whole process aims to ensure that the data analyzed is valid and can be scientifically accounted for.

RESULT AND DISCUSSION

This study was conducted to investigate the impact of integrating religion and science curricula on students' attitudes towards empathy and cooperation at SDIT Al Firdaus Purwodadi. The focus of the research was on two essential aspects of character education,

namely empathy and collaboration, which are considered relevant to the integrative learning approach applied in this Islamic-based school. The respondents in this study were fourth- and fifth-grade students, with a sample size of 30 students, consisting of 15 students from each class. The sampling technique was proportional and purposeful, taking into account students' active involvement in integrative learning for a minimum of six months. This approach aims to ensure that the samples involved truly have experiences that are appropriate to the context of integrating religion and science curriculum.

The primary instrument used for data collection is a questionnaire prepared based on indicators of the two dependent variables: empathy (Y1) and cooperation (Y2). This questionnaire consists of 40 statement items, 20 items each to measure empathy and the other 20 items to measure cooperation. The data collected from the questionnaire were then analyzed using a quantitative approach. Before the primary analysis is carried out, the validity and reliability of the instrument are first tested to ensure the validity and consistency of the measurement. After the instrument was declared valid and reliable, the analysis proceeded with prerequisite tests, including normality and homogeneity tests, before conducting multiple linear regression tests. This analysis is used to statistically test the influence of curriculum integration on changes in students' empathy and cooperation attitudes, as well as to verify the hypotheses formulated in the research framework.

1. Validity Test and Reliability Test

The validity test is used to determine the extent to which each item in the instrument accurately measures what it is intended to measure. The instrument is said to be valid if the value of r count> r table (0.361) and a significant value (Sig. 2-tailed) <0.05, based on the Pearson Product-Moment formula.

Variabel	Indikator	Item	r hitung	Keterangan
		Y1.1	0.694	✅ Valid
		Y1.2	0.747	✅ Valid
		Y1.3	0.586	✅ Valid
		Y1.4	0.568	✅ Valid
Y1	EMPATI	Y1.5	0.394	✅ Valid
		Y1.11	0.568	✅ Valid
		Y1.14	0.813	✅ Valid
		Y1.17	0.648	✅ Valid
		Y2.1	0.413	✅ Valid
Y2	KERJASAMA	Y2.4	0.451	✅ Valid

Y2.5	0.373	✅ Valid
Y2.8	0.747	✅ Valid
Y2.14	0.694	✅ Valid
Y2.15	0.490	✅ Valid
Y2.20	0.813	✅ Valid

From the validity test results, in variable Y1 (Empathy), out of 20 statement items, eight items were declared valid, while in variable Y2 (Cooperation), out of 20 question items, seven items were declared valid. Thus, only 15 valid items are used in further analysis processes, such as reliability tests and multiple linear regression tests.

The reliability test aims to determine the consistency or reliability of the instrument in measuring the variables studied. This test was conducted using Cronbach's Alpha value. The instrument is declared reliable if the Cronbach's Alpha value is> 0.60. The following is the attachment to the reliability test using SPSS:

Reliability statistics	
Cronbach's Alpha	**N of Items**
0.855	40

Based on the reliability test results, the Cronbach's Alpha value is 0.855. This value indicates that the research instrument has a high level of reliability and can be trusted for use in subsequent analyses.

2. Prerequisite Test Results

The normality test is conducted to determine whether the data from the empathy (Y1) and cooperation (Y2) variables exhibit a normal distribution. In this study, the Shapiro-Wilk test was used because the sample size was less than 50 respondents. Based on the analysis results, significance values of 0.782 for Y1 and 0.285 for Y2 were obtained. The following is proof of the results of the SPSS test attached below:

	Tests of Normality					
	Kolmograv-Smirnov			Shapiro-Wilk		
	statistic	df	Sig.	Statistic	df	Sig.
Y1	0.097	30	200	0.978	30	0.782
Y2	0.090	30	200	0.959	30	0.285

Because both values are greater than 0.05, it can be concluded that the data on empathy and cooperation are normally distributed and therefore qualify for parametric statistical analysis.

The homogeneity test is used to determine whether the data variances of two or more variables are similar or not. This study employs Levene's test to assess the homogeneity of data on empathy and cooperation variables.

		Levene statistic	df1	df2	Sig.
		Test Homogeneity of Variances			
Result Y1 Y2	Based on the mean	1.960	1	58	0.167
	Based on the median	1.771	1	58	0.188
	Based on the median and with adjustments	1.771	1	50.052	0.189
	Based on the trimmed mean	1.935	1	58	0.170

Because all p-values are greater than 0.05, it can be concluded that the data have homogeneous variance. Thus, the assumption of homogeneity is met, and the data are suitable for further parametric statistical analysis.

3. Multiple Linear Regression Analysis

Multiple linear regression tests are used to determine the relationship between the independent variable and the dependent variable, and to predict the value of the dependent variable based on the independent variable. The following is proof of the results of the SPSS test attached below:

		Unstandardized	coeffecients	Standardized coeffecients		
		Coeffecients				
Model		B	Std.Error	Beta	t	Sig.
1	(constant)	31.268	10.561		2.961	0.006
	Y1	0.567	0.135	0.621	4.191	0.000
Dependent variable: Y2						

		Unstandardized	Coeffecients	Standardized coeffecients		
		Coeffecients				
Model		B	Std.Error	Beta	t	Sig.
1	(constant)	26.449	12.261		2.157	0.040
	Y1	0.679	0.162	0.621	4.191	0.000
Dependent variable: Y1						

Based on the results of a multiple linear regression analysis of the empathy (Y1) and cooperation (Y2) variables, it is evident that the empathy variable has a significant effect on student cooperation, and vice versa; cooperation also has a significant impact on empathy. This is demonstrated by the results of the regression coefficients for Y1 on Y2 (B = 0.567, p < 0.000) and for Y2 on Y1 (B = 0.679, p < 0.000). Because the Sig. Value in both directions of the relationship is smaller than the significance level of 0.05; it can be concluded that both show a statistically significant effect. These results support the alternative hypothesis (H_a) and reject the null hypothesis (H_0), which means:

a. H_{a1} is accepted: There is a significant influence of student empathy on student cooperation.

b. H_{a2} is accepted: There is a significant influence between student cooperation and student empathy.

Thus, it can be said that the two variables have a significant influence on each other. Although multiple regression is generally used to analyze the effect of more than one independent variable on a single dependent variable, in this study, the regression approach is employed to analyze the impact of one variable on another, both of which are aspects of the learning process results. This approach was undertaken at the request of the academic advisor as a form of quantitative hypothesis testing.

CONCLUSION

Based on the research results on the influence of integrating religion and science curriculum on the empathy and cooperation attitudes of SDIT Al Firdaus Purwodadi students, it can be concluded that the integration of learning that combines religious values with science makes a significant contribution to the formation of students' social character. The validity test results showed that out of a total of 40 question items, 15 were deemed valid and were then used for further testing. The reliability test yielded excellent results, with a Cronbach's Alpha value of 0.855, indicating that the instrument used is reliable. The data also met the prerequisite tests, with the results of the normality and homogeneity tests indicating that the data distribution is normal and has homogeneous variance. Furthermore, the results of the multiple linear regression analysis show that the variables of empathy and cooperation have a significant influence on each other, with a significance value of less than 0.05. Therefore, the alternative

hypothesis (H_a) in this study was accepted, and the null hypothesis (H_0) was rejected, indicating that the integration of religion and science curriculum has a significant effect on improving students' empathy and cooperation. The findings suggest that combining religious and scientific approaches in basic education can create a learning atmosphere that encourages students to understand others and work collaboratively.

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