Al-Ishlah: Jurnal Pendidikan
Vol.14, 4 (December, 2022), pp. 6025-6038
ISSN: 2087-9490 EISSN: 2597-940X, DOI: 10.35445/alishlah.v14i4.2433

Improving Multiliteracy Ability in the Integration of Islamic and Science Learning

Tukiyo[1], Purwo Haryono[2], Syamsul Arifin[3], Ari Kartiko[4], Fahlulia Rahma Shofiana[5]

[1] Universitas Widya Dharma Klaten, Indonesia; tukiyo@unwidha.ac.id
[2] Universitas Widya Dharma Klaten,Indonesia; pwharyonk@gmail.com
[3] Universitas Muhammadiyah Ponorogo, Indonesia; syamsularifin8890@gmail.com
[4] Institut Pesantren Kh. Abdul Chalim Pacet Mojokerto, Indonesia; ari.kartiko5@gmail.com
[5] Institut Pesantren Kh. Abdul Chalim Pacet Mojokerto, Indonesia; fahluliarahma22@gmail.com

ARTICLE INFO

Keywords:

Integrated Learning;
Religion and Science;
Multiliteration Ability

Article history:

Received 2022-03-22
Revised 2022-08-12
Accepted 2022-12-11

ABSTRACT

Multiliteracy ability is an important ability to be mastered in the Society 5.0 era where the challenges faced by humans are increasingly complex, especially in the world of education and relation to religious life. This ability can be formed and enhanced through meaningful learning activities, one of which is the integrated learning of religion and science that is planned, organized, and evaluated on an ongoing basis as implemented by the Supreme Court Darul Ulum Rejoso Jombang. Because the integration of religion and science is still rarely carried out, several questions arise, namely how to implement integrative learning of religion and science in improving students' multiliteracy skills and what factors influence it. The method used in this research is a qualitative method with the type of case study research. Data were collected utilizing observation, interviews, and documentation which were analyzed descriptively. The results of this study are: 1) Integrative learning of religion and science at MA Unggulan Darul Ulum is implemented in 3 stages, namely, planning (compilation, and maturation of the syllabus and lesson plans), implementation (discussion, lectures, and demonstrations), and evaluation (daily exams). , PTS, PAS, and TA) and is also accompanied by supporting activities to improve reading, writing, conveying ideas based on religious and scientific critical thinking, and using various technological tools. 2) influencing factors, namely teachers, students, educational policies, facilities & infrastructure.

Corresponding Author:
Tukiyo
Universitas Widya Dharma Klaten, Indonesia; tukiyo@unwidha.ac.id

1. INTRODUCTION

Science is part of religion. Between the two there is a very close relationship and cannot be separated from each other. There is no conflict between the two, even the Qur'an and Hadith as the basis for holding and guiding the Islamic religion are sources of scientific knowledge (Fahmi, 2018; Nurdyansyah & Arifin, 2018). The Qur'an was not revealed as a book of medical science or other sciences, but in the Qur'an, all-natural and scientific phenomena are explained in a complex manner and proven true by integral interpretation and scientific research carried out by scientists (Ghofur, Kuipers, & Askuri, 2021; Zoellner et al., 2021).

Turning from the problem of disintegration between religion and science, Islamic education in Indonesia is currently still struggling with problems in the process of learning development that is not broad and abstract and tends to be far from the concrete life experienced by students (Chanifudin & Nuriyati, 2020). So that students have difficulty in understanding, living, and practicing the values that exist in religious science. This also later became one of the causes of the partial understanding of students from other sciences, one of which is science, which is now a necessity that understanding science is something urgent considering the development of science and technology is moving very fast (Annisa, Akrim, & Manurung, 2020; Bentri, Hidayati, & Rahmi, 2016). Whereas the purpose of learning is to give birth to certain knowledge, abilities, or skills that can make students able to face challenges in their lives both now and in the future (Purwati, Zubaidah, Corebima, & Mahanal, 2018; Rokhman & Amami, 2021).

In the Society 5.0 era, various abilities must be mastered, one of which is the ability to multiliterate. This is because there are more and more challenges that must be faced by students as a result of the unstoppable development of science and technology where people can solve problems easily and quickly using various technologies found in the 4.0 era such as the use of IoT (Internet of Things), and so forth (Corkett & Benevides, 2015; Schwarzer, Haywood, & Lorenzen, 2003). So, to face these challenges, students must have good multiliteracy skills. Not only that, in the National Literacy Movement launched by the Ministry of Education and Culture in 2017, multiliteracy skills are also skills that must be possessed by the Indonesian people.

Previous research has philosophically stated that the integration of Islam and science must be open and there is no win-win between the religions of science (Nurcholis, 2021). The openness of religion and science does not need to be integrated and is indeed a unified whole. The results of research on the development of teaching materials are also interesting when they show that science and science are interrelated each other (Faizah, 2022; Faizah & Mubin, 2018). Every material taught in religion and science does not need to be separated from one another (Permadi, 2018). The mapping of religion and science is only to distinguish between subjects from one another, but science and religion are integral. Strengthening science learning in MI was also harmonized from an early age that there was no such separation. In testing teaching materials, students are also more interesting when they know the legal basis of religion (Husna, Hasan, Mustafa, Syukri, & Yusrizal, 2020; Suciati, Susilo, Gofur, Lestari, & Rohman, 2022).

To form these abilities, what can be pursued is the integrative learning of religion and science where students are provided with literacy skills of religious knowledge accompanied by scientific knowledge. As was done at the Supreme Court Darul Ulum Rejoso Jombang. In its curriculum, this Madrasah which has 4 major programs has included the integration of religion and science as a flagship program, especially in the IAI Department since 2015 by teaching Islamic Science subjects (Observation on October 31, 2021). With this integrative learning, religious knowledge possessed by students is not only based on belief alone but also has logical reasons and is proven true in the universe.

Integrated religious and scientific learning in education is something relatively new, especially in madrasah or Islamic boarding schools. Its implementation is still very lacking and rarely does so research on its implementation is very interesting to dig deeper into. Considering the importance of multiliteracy skills that can be formed by implementing integrative learning, this study tries to explain how the implementation of religious and scientific integrative learning in improving the multiliteracy skills of the students of MA Unggalan Darul Ulum Rejoso and identify various factors that influence it.

2. METHODS

To study intensively the implementation of integrative learning of religion and science at the Superior MA Darul Ulum as an effort to improve the multiliteracy ability of its students, the researchers used a qualitative approach with the type of case study in conducting this research (Sugiyono, 2008). As for digging and collecting data and facts in the field, the researchers used observation, interview, and documentation techniques. In conducting observations, researchers act as participatory and non-participatory observers. namely by participating in teaching and learning activities as well as other activities such as seminars and study groups, then as a non-participatory observer, researchers observe activities that are not possible for researchers to participate such as evaluation activities and others (Rosyada, 2020).

To find out the planning and steps taken by madrasas in compiling an integrative learning curriculum for religion and science, the researchers conducted interviews with the Principal of the Superior MA Darul Ulum and the Deputy Head of the Curriculum Division. Islamic Studies (IAI) besides that, interviews were also conducted with alumni and other related parties. The documentation that is the source is in the form of school data, both historical and other administrative data, photos of the research process, lesson plans, syllabus, and other references such as books, journals, articles, and magazines related to this research. Descriptive analysis is the data analysis technique chosen in this study with activities that include data reduction, data presentation (*data display*), and data verification (Miles, Huberman, & Saldana, 2018). And in testing the validity, credibility, and validity of the data, the researchers used triangulation techniques to find out whether the data obtained were extensive, inconsistent, or contradictory (Moleong, 1989; Sudaryono, 2016).

3. FINDINGS AND DISCUSSION

The implementation of integrative learning of religion and science at the Supreme Court of Darul Ulum is implemented into 3 stages with supporting activities, namely the planning stage, implementation stage, evaluation stage, and supporting activities in the form of extracurricular activities, and seminars, or general stadiums, and competitions. The form of the integration of religion and science at this Madrasah is Islamic Science subjects taught in the Department of Islamic Studies (IAI), which is a department that only focuses on religious scholarship.

In the planning stage, there are various parties involved in the preparation of the curriculum for Islamic Science subjects. Among them are science teachers, religious teachers, components and related parties such as leaders of madrasas and Islamic boarding schools, education experts, and experts in the integration of religion and science such as one of the Muslim scholars, Agus (Mustofa, 2012) who was invited directly to the Supreme Court of Darul Ulum. The formulation of the curriculum for integrating religion and science has gone through a very long process, namely: 1) team formation, 2) analysis of the national curriculum, 3) determination of KI/KD, 4) determination of materials, 5) search and excavation of sources, 6) connection and organization of materials. 7) RPP design.

In formulating the subject matter of Islamic Science, the drafting team paid close attention to and considered the content of the material with the level of students' abilities and their background knowledge which was more dominant in Islamic boarding schools. After the compilation of this integration syllabus, the Islamic Science subject teachers then developed a Learning Implementation Plan (RPP) which was designed according to the creativity, innovation, and ability of the teacher and adapted to the material, student conditions, and availability of infrastructure (Halimi Mohd Khalid, 2022; Sudarman, 2021).

Furthermore, at the implementation stage, the method used in Islamic Science learning is the integrative discovery method with seven stages, namely the preparation stage, stimulation, stating the problem, data collection, data processing, proof, and conclusion. Learning with this method is very demanding of students' activity in finding the concepts of knowledge being studied. In the learning activities, the techniques used are discussion, lecture, and demonstration techniques.

Based on the data obtained when conducting observations in class, researchers have observed and found data that in the learning process, the teacher takes the following steps: 1) Reading the maulid burdah; 2) Opening for teachers and students (absence, greeting, asking for news); 3) Review the material that has been taught previously; 4) Introducing the theme to be discussed in the meeting on that day; 5) Appoint several students in turn to read verses of the Qur'an that are relevant to the material to be discussed along with their translation; 6) Write down and mention some keywords; 7) Provide questions that arouse students' curiosity; 8) Displaying powerpoint, video learning, and other learning media; 9) Asking students' opinions or knowledge of the keywords that have been mentioned and the learning media that have been displayed; 10) Listening and accommodating the opinions of students who are multi-perspective; 11) Facilitate dialogue between students regarding their views, responses or objections; 12) Confirming the ongoing discussion and explaining the material discussed; 13) Provide answers to unanswered questions; 14) Asking students to do a review and conclude about the results of the discussion of the material on that day; 15) Cover.

Furthermore, at the evaluation stage, the Superior MA Darul Ulum carries out various activities, namely daily exams, PTS (Middle Semester Assessment), PAS (Final Semester Assessment), and a final project in the form of Scientific Writing (KTI). The questions tested were questions on the integration of religion and science in the form of arguments that were relevant to the material that had been taught, as well as questions about student opinions from the presentation of a case viewed from the point of view of science and religion. One of the weaknesses of the evaluation activity in the form of this exam is the written test. So, students are not given the space and opportunity to represent their learning outcomes orally.

For the writing of KTI itself, the Supreme Court of Darul Ulum has an independently compiled guidebook covering the mechanism of the preparation of the final project, namely: 1) forming groups consisting of students majoring in Science, Social Sciences, and IAI; 2) determination of supervisor; 3) Title submission; 4) discussion and data search; 5) research; 6) presentation of research data; 7) presentation of research results. From this activity, IAI students not only apply knowledge from Islamic Science subjects that they get in class, but can also exchange ideas, share, and absorb as much knowledge as possible from a series of activities in the preparation of the final project with their group team consisting of various groups. majors in the madrasa.

The supporting activities in implementing the integrative learning of religion and science madrasas provide a forum and activities for students and teachers. The goal is, as an effective medium for learning activities in the classroom alone sometimes makes children feel bored. These supporting activities include: 1) Extracurricular in the academic field, namely extracurricular Physics, Chemistry, Biology, and Mathematics Olympiad. For extracurricular activities, there are no special conditions to join, so students majoring in IAI are free to take extracurricular activities in Academic fields such as Physics, Chemistry, and Biology. And according to the waka's statement, several IAI children chose extracurriculars related to science. 2) Seminars and general stadiums. Supreme Court Darul Ulum often holds seminars, training, and general stadiums every year, and the most frequently raised theme in this event is the integration of religion and science. This event is intended for teachers and students, by inviting resource persons who are experts in the integration of religion and science. 3) Race. In addition to holding internal madrasa competitions with the theme of integrating religion and science, such as in-class meetings and commemoration of national holidays, students are also involved in competitions with the theme of integrating religion and science, both in essay competitions, quizzes, and others at the district level. provincial and national.

Based on the implementation of integrative learning of religion and science conducted by the Supreme Court of Darul Ulum, the ability to read the verses of the *Kauniyyah* (universe) as well as scientific terms is improved from the activity of reading verses of the Qur'an relating to the universe. (verse *Kauniyyah*) which is always done at the beginning of each learning process (Rosa, 2021). This ability can also be obtained and improved from reading the manual which was prepared by the team that initiated the integration of the science and religion curriculum at the Supreme Court of Darul

Ulum. Then the ability to listen and absorb information and materials on the integration of religion and science is improved through listening to the explanations explained by the teacher regarding the material being taught (Maimunah, Huda, Haque, & Zubaidah, 2021). In addition, it is also obtained by listening to the opinions that occur in the discussion and rewriting the feedback at the end of the lesson. On the other hand, supporting activities such as general stadiums and seminars increase the ability to listen and absorb information on the integration of religion and science (Ajjawi et al., 2020; Bai, Feng, Yue, & Feng, 2017).

The ability to write and convey ideas or ideas about science and religion based on critical thinking is improved using discussions conducted in every teaching and learning activity that takes place. Both with classmates and with subject teachers. Discussions can also occur in general stages, seminars, and science extracurricular groups. In addition, the existence of a final project in the form of scientific writing is also an effort by the madrasa in improving the ability of students to express their critical thinking about religion and science which is poured into writing (Mumtahanah, 2020). While the ability to use technology in conducting experiments related to science and technology is enhanced by practicum activities carried out in the laboratory, this ability can also be increased by the presence of other learning media such as television available in class and computers in the laboratory (Chen & Liu, 2021).

From the description and analysis of the data that has been presented, it can be seen that the implementation of integrative learning of religion and science at the Superior Court of Darul Ulum occurs at the level of material, strategy, and evaluation according to the classification of levels of implementation of the integration of religion and science by (Aini & Assegaf, 2021). This is indicated by the existence of a curriculum that integrates religious and scientific knowledge, as well as teaching Islamic Science subjects as local content in the Department of Islamic Studies (IAI) which shows interdisciplinary relationships, with integrated materials that have been determined as embodiment models in implementing integration. religion and science at the material level (Delinom et al., 2009).

The process of formulating curriculum and materials in Islamic Science subjects is very long and rigorous from team formation to the RPP design process. The team consisted of teachers, the leadership council of madrasas and Islamic boarding schools, and even experts in the field of religion and science integration. In the preparation process, this special team was very careful so that what they formulated remained in line with the curriculum and national education goals. It is even hoped that this curriculum, can be one way to support the desired learning outcomes in the 2013 curriculum which is still applied today, namely that students have the ability and skills to face challenges in real life.

In addition, at the strategy level, the quality of knowledge and teaching skills which are the keys to successful learning are very much considered at the Superior MA Darul Ulum Jombang. At the madrasa, various activities were carried out to improve the quality of teachers who were required to implement the integrated curriculum, especially teachers of Islamic Science subjects, as revealed by the waka of the curriculum in the following interview excerpt:

> "Among the obstacles, we experienced during this curriculum for 16 years were the human resources or the teachers. The enthusiasm of the teachers who used to take part in compiling this program gradually diminished, and some teachers graduated and were accepted as civil servants so that they had to be transferred to their assigned places, and other things which then reduced the number of human resources. but we are starting to be able to overcome that by regenerating and doing coaching." (Suhaeri Zuhri, personal communication, January 25, 2022).

In addition, teachers are well facilitated regarding the procurement of various reading sources and teaching resources in the classroom. At this strategy level, the teacher carries out Islamic science learning using the discovery integrated learning model which demands creativity, innovation, competence, teacher mastery of teaching materials, and also students whose background is more dominant in religious science (U. Azizah, Rahman, Farida, & Nurmilasari, 2021; Budiarto & Salsabila,

2022). The teacher takes certain approaches so that students are interested in the learning being carried out because the subject of Islamic Science is still foreign to those who choose the Department of Islamic Studies (Ashaari et al., 2012).

> "I did an approach in which I plunged into their world so that I could then draw them into the dimension of scientific knowledge. I have to get to know my students more so that I can apply learning that makes them enjoy so that they feel happy and enthusiastic in the Islamic Science learning process." (Mujazin, interview by researcher, January 15, 2022).

In the documentation in the form of RPP for Islamic Science Subjects by Mr. Mujazin, S.Pd., M.Pd.I. It is known that the learning steps are divided into the stages of preparation, stimulation, stating the problem, collecting data, managing data, proving, and drawing conclusions. From the series of activities, there were focused discussions, lectures, and demonstrations that were carried out to shape students' knowledge and expected multiliteracy skills. In addition, supporting activities such as science olympiad extracurriculars, general stadiums, and seminars, as well as competitions with the theme of the integration of religion and science further support the implementation of the integration of religion and science in enhancing multiliteracy skills (Ganapathy, 2013).

However, some scientists are of the view that there is a contradiction between religion and science so they consider the integration of religion and science to be almost incompatible as a scientific criterion (Iqbal, 2018). Because according to them, the field of science always adheres to and refers to empirical data to obtain the truth of science, while in religion most of its teachings are doctrines so that its adherents must accept and believe in the truth of something abstract though. Religion and science have a very close relationship so they should be balanced in studying and applying (Akbar, 2019). Because reality shows that experts in science and technology (scientists) who do not fortify themselves with religious sciences bring destruction to their environment and are destroyed by science. what he gets, on the other hand, a clergyman who is not open to other knowledge will sink into backwardness and rejection (Melvin-Koushki, 2019).

Then at the evaluation level, the Superior MA Darul Ulum conducts a series of activities such as Daily Exams, Mid-Semester Assessments (PAS), Final Semester Assessments (PAS), and also Final Projects in the form of Scientific Writing (KTI) so that the level of success or failure can then be analyzed, strengths and weaknesses, as well as what needs to be improved from the implementation of integrative learning activities that have been carried out (Adawiyah, 2016). Specifically for the final project, namely the writing of scientific papers with the theme of the integration of religion and science, the Superior MA Darul Ulum Rejoso takes steps according to the scientific method, besides the formation of this research group is designed from various majors in the madrasa with the aim that students can exchange ideas and share knowledge as well as collaborate in scientific fields from various majors so that work can be created that contains themes of integration, especially between religion and science.

On the other hand, the implementation of integrative learning of religion and science at the Superior MA Darul Ulum Rejoso is also carried out based on the theory of 4 levels of implementation of the integration of religion and science proposed by Zainal Abidin (Bagir, 2005) in his book, namely at the conceptual, institutional, operational, and architectural levels. The Superior MA Darul Ulum can be recognized as an educational institution that has full awareness of the importance of integrating religion and science and can direct, guide, and educate its students to become learners who not only understand religion but also understand science. institutionally and operationally, MA Unggulan Darul Ulum has a firm policy regarding the implementation of the integration of science and religion and has a curriculum that incorporates the fundamental concepts of religious science along with science which is applied in learning tools, teaching materials, and learning implementation. Meanwhile, at the architectural level, the superior MA Darul Ulum has room for the development of science and religion.

Then, if it is related to the integrative learning theory by Robin (Fogarty, 2016; Pete & Fogarty, 2017), in learning Islamic Sciences, integrative principles are used, namely, the management which

focuses more on student activity, the teacher's position as a mediator and facilitator, and the principle of evaluation that provides space and opportunities for students to show results. learn from the learning process that has been carried out.

The characteristics of holistic, meaningful, and authentic learning are very prominent in the process of teaching and learning activities (A. Azizah, Rizal, Yudtika, & Sitepu, 2022; Pakpahan & Habibah, 2021). This is marked by the use of the integrated discovery method and discussion techniques, lectures, and demonstrations. From the RPP that has been analyzed, the learning steps taken show the existence of stimulation activities, stating problems, collecting data, processing data, proving, and ending with concluding (Rahmat, 2019).

With the integrative learning of religion and science that was carried out at the Superior MA Darul Ulum Rejoso Jombang then some indicators showed an increase in students' multiliteracy skills including the ability to read Kauniyyah verses and scientific terms such as genetic engineering, peristaltic motion, fertilization, lytic and lysogenic, abiotic and biotic as well as other terms that are getting closer to the students majoring in IAI MA, Darul Ulum. In addition, the ability to convey and write ideas and ideas based on critical thinking about religion and science is also very good, this is indicated by several collections of scientific papers which are the final assignments that they must do. In addition, they can also use technological tools in learning as well as for experiments related to religion and science (Ali, 2019).

From the analysis of data and facts in the field, several factors influence the implementation of integrative learning of religion and science in improving multiliteracy skills at the Superior MA Darul Ulum Rejoso. It is this factor that determines whether the implementation can run and achieve its goals or not, especially regarding militarization abilities that can be formed, increased, decreased, or not owned by students at all (Prastowo, 2019). This is because several theories about integrative learning require certain principles and concepts so that in their implementation various elements must carry out their roles proportionally so that they can synergize with each other to achieve the goals that have been set. These factors are explained as follows (Kurniawan & Dagustani, 2021):

First, Teacher. In integrative learning theory, a teacher is required to be able to position himself as a mediator or facilitator. as the most important component in the implementation of integrative learning of religion and science, teachers must be consistent and also have qualified scientific quality so that they can carry out activities and be able to create learning conditions in which materials on the integration of religion and science can be conveyed and absorbed in a coherently clear and rational manner by students (Rifenta, 2019). In this lesson, the teacher must make students look for a meeting point that is connected between religion and science (Skerrett, 2015). In addition, teacher resources are a focus that is highly highlighted by the madrasa leadership assembly so that consistency in continuing to teach at the Superior MA Darul Ulum Rejoso with the spirit of the madrasa's vision and mission remains sustainable. Therefore, madrasas regenerate and foster Islamic science teachers to continue to maintain the implementation of integrative learning of religion and science in madrasas.

Second, Students. As learning with holistic, meaningful, active, and authentic characteristics, integrative learning requires students to be participatory in every activity carried out in learning (Chatterjee & Correia, 2020; Coles, Owens, Serrano, Slavec, & Evans, 2015). Students are required to be active both in discussions, and experiments or listening to the teacher's explanation. Meanwhile, in the context of integrative learning of religion and science, IAI students who prefer religious knowledge are asked to reason about a case from a scientific point of view. Therefore, the enthusiasm, interest, and participation of students are very influential in the implementation of integrative learning of science and religion.

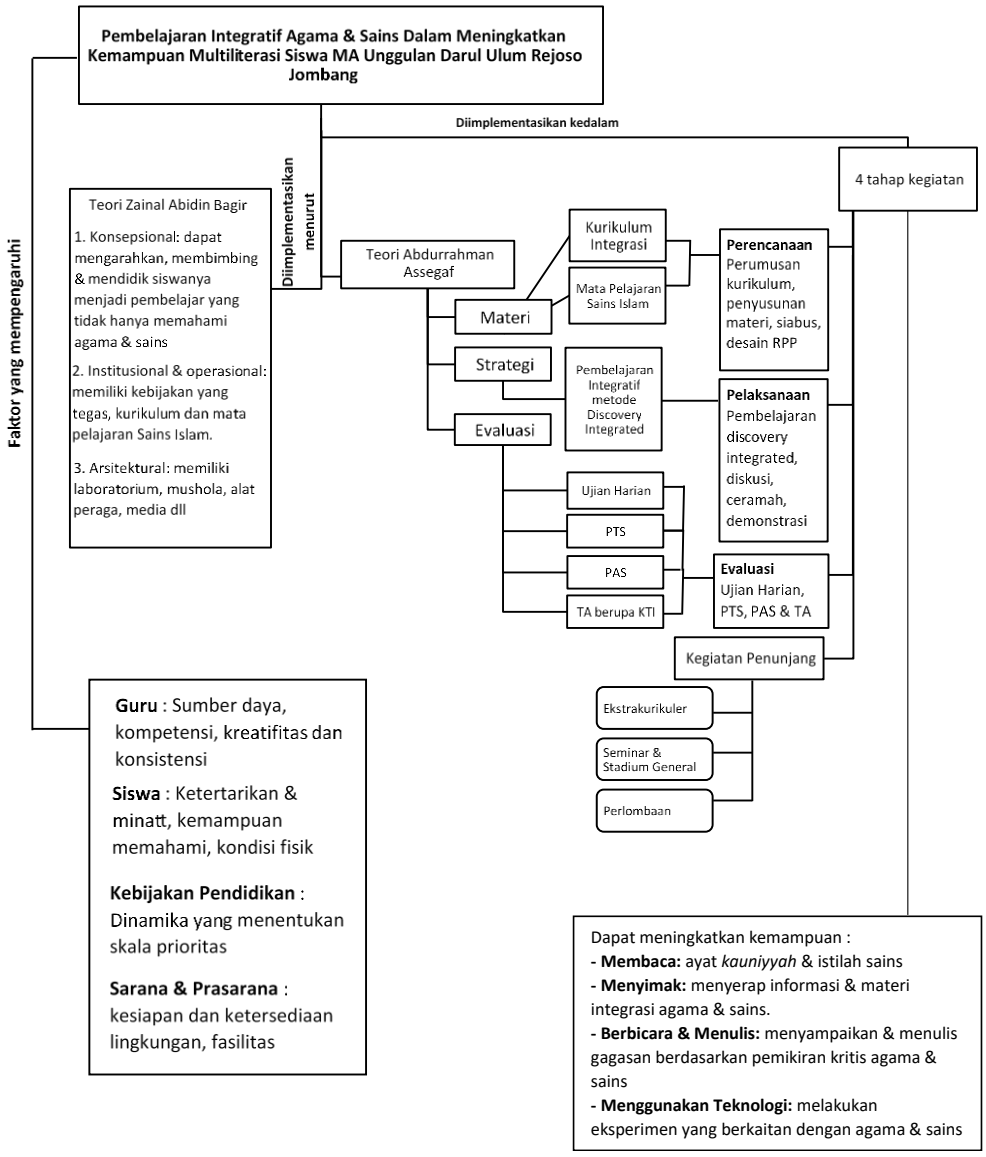
Third, Education Policy. The stipulation of various educational policies greatly influences the implementation of integrative learning of religion and science. This has been expressed by the Islamic Science subject teacher as follows:

"At the beginning of the curriculum integration of religion and science, Islamic Science subjects were held from class X to class XII, but over time with the dynamics of education policies by the government including the implementation of the National Examination which is the main requirement for students' graduation, these subjects Islamic science is only taught for 4 semesters. This is caused by the breakdown of the teacher's focus due to the demands of students to pass the subjects tested in the National Examination with the best grades and can pass 100%." (Mujazin, interview by researcher, 27 October 2021).

Fourth, Facilities and Infrastructure. According to the theory put forward by Zainal Abidin Bagir, the implementation of the integration of religion and science is not sufficient only at the conceptual, institutional, and operational levels, but must also be carried out at the architectural level. This can be seen from the availability of facilities that can support the integrative learning of religion and science such as the existence of laboratories, prayer rooms, halls, teaching aids, and media that can enable the integrative learning of religion and science in an educational institution (Malik, Trisnamansyah, & Mulyanto, 2021; Muslimin & Kartiko, 2020). and with complete facilities, the Superior Court of Darul Ulum Rejoso Jombang can optimally carry out integrative learning of religion and science.

The following is a visualization of research results from the discussion of this article:

Figure. 1. Implementation of learning integration of Islam and science



4. CONCLUSION

The implementation of integrative learning of religion and science at the Superior MA Darul Ulum Rejoso Jombang is carried out at the level of material, strategy, and evaluation at the conceptual, institutional, operational, and architectural levels where there are 3 stages of implementation namely, planning (in the form of preparation, and maturation of the syllabus and lesson plans), implementation (in the form of discussion activities, lectures, and demonstrations in teaching and learning activities), and evaluation (in the form of daily exams, PTS, PAS, and TA or KTI). Coupled with supporting activities in the form of extracurricular activities, general stadiums, and seminars, as well as competitions. From the series of implementation activities, the ability to read, write, convey ideas based on religious and scientific critical thinking and use various technological tools for the superior students of MA Darul Ulum can improve. The factors that influence the implementation of integrative learning of religion and science in improving the multiliteracy ability of students at MA Uggulan Darul Ulum Rejoso Jombang are teachers, students, educational policies, facilities & infrastructure. With the experience of implementing the integration of religion and science for 16 years, the researchers hope that the Head of Madrasah, Deputy Head of Curriculum, and Islamic Science Teachers will continue to synergize and cooperate in implementing integrative learning of religion and science at the Supreme Court of Darul Ulum in a strict, monitored and sustainable manner, as well as the enthusiasm to provide The best learning experiences for students continue to be encouraged, so that the syllabus that has been compiled with a very long process will not only be used as documentation. Likewise for Islamic Science Teachers to continue to innovate in conveying material, especially for practical activities that can be carried out more often both inside and outside the classroom. And to IAI MA Darul Ulum students for continuing to increase their enthusiasm and enthusiasm in participating in activities programmed by madrasas specifically for them. Because in addition to being a characteristic, this program is very important for their lives in the future where the challenges they face with the current the development of science and technology are very fast.

Acknowledgments: Thank you to the Association of Indonesian Islamic Tarbiyah Lecturers for helping to complete this research (PDTII) Perkumpulan Dosen Tarbiyah Islam Indonesia.

REFERENCES

Adawiyah, R. (2016). Integrasi Sains Dan Agama Dalam Pembelajaran Kurikulum Pai (perspektif Islam Dan Barat Serta Implementasinya). *Al-Banjari : Jurnal Ilmiah Ilmu-Ilmu Keislaman*, *15*(1), 99–124. https://doi.org/10.18592/al-banjari.v15i1.817

Aini, U. N., & Assegaf, A. (2021). *Model Pembelajaran PAI Berbasis Digital Mobile Learning di SMP Masa Pandemi Covid-19*. *7*(2), 17.

Ajjawi, R., Tai, J., Huu Nghia, T. L., Boud, D., Johnson, L., & Patrick, C.-J. (2020). Aligning assessment with the needs of work-integrated learning: The challenges of authentic assessment in a complex context. *Assessment & Evaluation in Higher Education*, *45*(2), 304–316. https://doi.org/10.1080/02602938.2019.1639613

Akbar, A. (2019). Islam–science relation from the perspective of post-revolutionary Iranian religious intellectuals. *British Journal of Middle Eastern Studies*, *46*(1), 104–122. https://doi.org/10.1080/13530194.2017.1383882

Ali, N. (2019). Integrative Curriculum of Religion and Science at Special Pesantren for University Students. *ULUL ALBAB Jurnal Studi Islam*, *20*(1), 95–122. https://doi.org/10.18860/ua.v20i1.6353

Annisa, N., Akrim, A., & Manurung, A. A. (2020). Development Of Teacher's Professional Competency In Realizing Quality Of Human Resources In The Basic School.

IJEMS:Indonesian Journal of Education and Mathematical Science, *1*(2), 156–160. https://doi.org/10.30596/ijems.v1i2.4590

Ashaari, M. F., Ismail, Z., Puteh, A., Samsudin, M. A., Ismail, M., Kawangit, R., … Ramzi, M. I. (2012). An Assessment of Teaching and Learning Methodology in Islamic Studies. *Procedia - Social and Behavioral Sciences*, *59*, 618–626. https://doi.org/10.1016/j.sbspro.2012.09.322

Azizah, A., Rizal, R., Yudtika, A. P., & Sitepu, M. S. (2022). Teacher Creativity Relationship with Interest Students Learning at SD Inpres Lolu During Pandemic. *Nazhruna: Jurnal Pendidikan Islam*, *5*(2), 777–786. https://doi.org/10.31538/nzh.v5i2.2232

Azizah, U., Rahman, C., Farida, I., & Nurmilasari, N. (2021). Pemahaman Guru Terhadap Standar Isi Sekolah Lanjutan Tingkat Pertama Kota Bandung. *Tafkir: Interdisciplinary Journal of Islamic Education*, *2*(2), 191–206.

Bagir, Z. A. (2005). *Integrasi Ilmu dan Agama: Interpretasi dan Aksi*. Mizan Pustaka.

Bai, W., Feng, Y., Yue, Y., & Feng, L. (2017). Organizational Structure, Cross-functional Integration and Performance of New Product Development Team. *Procedia Engineering*, *174*, 621–629. https://doi.org/10.1016/j.proeng.2017.01.198

Bentri, A., Hidayati, A., & Rahmi, U. (2016). The Problem Analysis in Applying Instrument of Authentic Assessment in 2013 Curriculum. *International Journal of Science and Research (IJSR)*, 1008–1012.

Budiarto, M. A., & Salsabila, U. H. (2022). Optimizing Islamic Education Towards the Golden Era of Indonesia. *Tafkir: Interdisciplinary Journal of Islamic Education*, *3*(1), 1–19. https://doi.org/10.31538/tijie.v3i1.105

Chanifudin, C., & Nuriyati, T. (2020). Integrasi Sains dan Islam dalam Pembelajaran. *Asatiza: Jurnal Pendidikan*, *1*(2), 212–229. https://doi.org/10.46963/asatiza.v1i2.77

Chatterjee, R., & Correia, A.-P. (2020). Online Students' Attitudes Toward Collaborative Learning and Sense of Community. *American Journal of Distance Education*, *34*(1), 53–68. https://doi.org/10.1080/08923647.2020.1703479

Chen, S., & Liu, Y.-T. (2021). Learning by designing or learning by playing? A comparative study of the effects of game-based learning on learning motivation and on short-term and long-term conversational gains. *Interactive Learning Environments*, *0*(0), 1–15. https://doi.org/10.1080/10494820.2021.1961159

Coles, E. K., Owens, J. S., Serrano, V. J., Slavec, J., & Evans, S. W. (2015). From Consultation to Student Outcomes: The Role of Teacher Knowledge, Skills, and Beliefs in Increasing Integrity in Classroom Management Strategies. *School Mental Health*, *7*(1), 34–48. https://doi.org/10.1007/s12310-015-9143-2

Corkett, J., & Benevides, T. (2015). Pre-service Teachers' Perceptions of Technology and Multiliteracy Within the Inclusive Classroom. *International Journal of Psychology and Educational Studies*, *2*(2), 35–46. https://doi.org/10.17220/ijpes.2015.02.004

Delinom, R. M., Assegaf, A., Abidin, H. Z., Taniguchi, M., Suherman, D., Lubis, R. F., & Yulianto, E. (2009). The contribution of human activities to subsurface environment degradation in Greater Jakarta Area, Indonesia. *Science of The Total Environment*, *407*(9), 3129–3141. https://doi.org/10.1016/j.scitotenv.2008.10.003

Fahmi, R. (2018). The Implementation of Integration on Knowledge: Islam-Psychology. *Siyaset, Ekonomi ve Yönetim Araştırmaları Dergisi*, *6*(1), 63–72.

Faizah, S. N. (2022). Pengembangan Modul Ipa Berbasis Integrasi Islam Dan Sains Dengan Pendekatan Inkuiri Di Mi Salafiyah Kutukan Blora. *At-Thullab : Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, *1*(1), 114–123. https://doi.org/10.30736/atl.v1i1.80

Faizah, S. N., & Mubin, M. (2018). Pengaruh Modul Tematik Berbasis Integrasi Islam Dan Sains Pada Tema Energi Dan Perubahannya Terhadap Hasil Belajar Siswa Mi Murni Sunan Drajat Lamongan. *Jurnal Penelitian Pendidikan IPA*, *3*(2), 72–76. https://doi.org/10.26740/jppipa.v3n2.p72-76

Fogarty, R. J. (2016). *Invite! Excite! Ignite!: 13 Principles for Teaching, Learning, and Leading, K–12*. Teachers College Press.

Ganapathy, M. (2013). Engaging ESL Students in the Writing Classroom through the Multiliteracy Approach. *Pertanika Journal of Social Sciences and Humanities*, *21*, 547-568.

Ghofur, A., Kuipers, J. C., & Askuri, A. (2021). Instructional Design: Multi-Site Study of the Integration of Islam in Science Teaching in Java, Indonesia. *Indonesian Journal of Islamic Education Studies (IJIES)*, *4*(1), 70–84. https://doi.org/10.33367/ijies.v4i1.1652

Halimi Mohd Khalid, N. F. (2022). The Intergration Of Science And Islam In Malaysia Of High Education Instituts: An Explorative Survey. *Journal of Positive School Psychology*, *6*(3), 2186–2199.

Husna, A., Hasan, M., Mustafa, M., Syukri, M., & Yusrizal, Y. (2020). Pengembangan Modul Fisika Berbasis Integrasi Islam-Sains pada Materi Gerak Lurus untuk Meningkatkan Hasil Belajar Peserta Didik. *Jurnal Pendidikan Sains Indonesia*, *8*(1), 55–66. https://doi.org/10.24815/jpsi.v8i1.15539

Iqbal, M. (2018). *Islam and Science*. Routledge. https://doi.org/10.4324/9781315195698

Kurniawan, G. I., & Dagustani, D. (2021). Literasi Berpikir Kreatif dan Pengenalan Program Santripreneur di Pesantren Miftahul Jannah. *Warta LPM*, *24*(3), 571–580. https://doi.org/10.23917/warta.v24i3.12637

Maimunah, I., Huda, M., Haque, A., & Zubaidah, Z. (2021). Islamic Boarding School at University: A Strong Pathway for Integrating Religion and Science. *J-PAI: Jurnal Pendidikan Agama Islam*, *8*(1). https://doi.org/10.18860/jpai.v8i1.15361

Malik, J., Trisnamansyah, S., & Mulyanto, A. (2021). Pengaruh Kompetensi, Motivasi, Sarana Prasarana, dan Iklim Sekolah terhadap Kepemimpinan Kepala Sekolah di Sekolah Dasar Negeri. *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, *2*(2), 81–94. https://doi.org/10.31538/munaddhomah.v2i2.48

Melvin-Koushki, M. (2019). Magic in Islam between Religion and Science. *Magic, Ritual, and Witchcraft*, *14*(2), 255–287. https://doi.org/10.1353/mrw.2019.0025

Miles, M. B., Huberman, A. M., & Saldana, J. (2018). *Qualitative Data Analysis: A Methods Sourcebook*. SAGE Publications.

Moleong, L. J. (1989). *Metodologi penelitian kualitatif*. Remadja Karya.

Mumtahanah, L. (2020). Integrasi Nilai Multikultural Dalam Pembelajaran Pendidikan Agama Islam Di Sekolah Dasar. *Nazhruna: Jurnal Pendidikan Islam*, *3*(1), 55–74. https://doi.org/10.31538/nzh.v3i1.461

Muslimin, T. A., & Kartiko, A. (2020). Pengaruh Sarana dan Prasarana Terhadap Mutu Pendidikan di Madrasah Bertaraf Internasional Nurul Ummah Pacet Mojokerto. *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, *1*(2), 75–87. https://doi.org/10.31538/munaddhomah.v1i2.30

Mustofa, A. (2012). *Al-Quran Inspirasi Sains*. PADMA press.

Nurcholis, M. (2021). Integrasi Islam dan Sains: Sebuah Telaah Epistemologi. *FALASIFA : Jurnal Studi Keislaman*, *12*(1), 116–134. https://doi.org/10.36835/falasifa.v12i1.461

Nurdyansyah, N., & Arifin, M. B. U. B. (2018, January). *Integration of Islamic Values in Elementary School*. 190–192. Atlantis Press. https://doi.org/10.2991/icigr-17.2018.46

Pakpahan, P. L., & Habibah, U. (2021). Manajemen Program Pengembangan Kurikulum PAI dan Budi Pekerti dalam Pembentukan Karakter Religius Siswa: Management of IRE Curriculum Development Program and Character in Forming Student's Religious Character. *Tafkir: Interdisciplinary Journal of Islamic Education*, *2*(1), 1–20. https://doi.org/10.31538/tijie.v2i1.19

Permadi, B. A. (2018). Pengembangan Modul IPA Berbasis Integrasi Islam Dan Sains Untuk Meningkatkan Hasil Belajar Siswa Kelas Vi Min 2 Mojokerto. *Nazhruna: Jurnal Pendidikan Islam*, *1*(2), 294–311. https://doi.org/10.31538/nzh.v1i2.62

Pete, B., & Fogarty, R. (2017). *Everyday Problem-Based Learning: Quick Projects to Build Problem-Solving Fluency*. ASCD.

Prastowo, A. (2019). *Analisis Pembelajaran Tematik Terpadu*. Prenada Media.

Purwati, N., Zubaidah, S., Corebima, A. D., & Mahanal, S. (2018). Increasing Islamic Junior High School Students Learning Outcomes through Integration of Science Learning and Islamic Values. *International Journal of Instruction*, *11*(4), 841–854.

Rahmat. (2019). *Evaluasi Pembelajaran Pendidikan Agama Islam*. Bening Pustaka.

Rifenta, F. (2019). Konsep Pemikiran Mehdi Golshani Terhadap Sains Islam dan Modern. *Kalimah: Jurnal Studi Agama dan Pemikiran Islam*, *17*(2), 23–24. https://doi.org/10.21111/klm.v17i2.3415

Rokhman, M., & Amami, F. (2021). Integration of Islamic Religious Education and Science Learning in Elementary School. *Ta'dib : Jurnal Pendidikan Islam*, *10*(2), 331–340. https://doi.org/10.29313/tjpi.v10i2.8971

Rosa, A. (2021). *Islam dan Sains dalam Kajian Epistemologi Tafsir Al-Qur'an: Al-Tafsir Al-'Ilmi Al-Kauni*. Penerbit A-Empat.

Rosyada, D. (2020). *Penelitian Kualitatif Untuk Ilmu Pendidikan*. Prenada Media.

Schwarzer, D., Haywood, A., & Lorenzen, C. (2003). Fostering Multiliteracy in a Linguistically Diverse Classroom. *Language Arts*, *80*, 453–460.

Skerrett, A. (2015). A framework for literacy education in multicultural, multilingual, and multiliterate classrooms. *Multicultural Education Review*, *7*(1–2), 26–40. https://doi.org/10.1080/2005615X.2015.1048610

Suciati, R., Susilo, H., Gofur, A., Lestari, U., & Rohman, I. (2022). Millennial students' perception on the integration of Islam and science in Islamic universities. *Indonesian Journal of Islam and Muslim Societies*, *12*(1), 31–57. https://doi.org/10.18326/ijims.v12i1.31-57

Sudarman, S. (2021). Contribution of education, employment, and ethnicity level to the integration of Islam and Christian religions in Central Lampung regency. *Indonesian Journal of Islam and Muslim Societies*, *11*(2), 243–270. https://doi.org/10.18326/ijims.v11i2.243-270

Sudaryono. (2016). *Metode Penelitian Pendidikan*. Prenada Media.

Sugiyono. (2008). *Metode penelitian pendidikan: (Pendekatan kuantitatif, kualitatif dan R & D)*. Alfabeta.

Zoellner, L. A., Bentley, J. A., Feeny, N. C., Klein, A. B., Dolezal, M. L., Angula, D. A., & Egeh, M. H. (2021). Reaching the Unreached: Bridging Islam and Science to Treat the Mental Wounds of War. *Frontiers in Psychiatry*, *12*. Retrieved from https://www.frontiersin.org/article/10.3389/fpsyt.2021.599293