Icare: Building Synergy between Adab and Science in Early Childhood

Hesti Sunarti

TK Islam Al Azhar 28 Solo Baru Sukoharjo, Indonesia

hestisunarti18@gmail.com

Abstract

Objective: This study aims to: (1) describe how to familiarize with Islamic manners in Early Childhood Education, PAUD (Pendidikan Anak Usia Dini) students, (2) describe how to teach mastery of science competencies in PAUD students, and (3) describe the synergy between the habituation of Islamic manners and the mastery of science competencies through the application of the ICARE method in kindergarten students of grade B1 Shofa KB Islamic Kindergarten Al Azhar 28 Solo Baru. **Theoretical framework:** This research is based on the theoretical framework of constructivism which emphasizes the importance of the active role of children in building knowledge through meaningful social and environmental interactions. The ICARE (Introduction, Connect, Apply, Reflect, Extend) method is seen as aligned with this approach because it integrates cognitive and affective learning in a single set of fun and contextual activities. **Literature review:** Previous literature shows that habituation of character values from an early age has a significant impact on children's moral development, while mastery of science competencies is important to form the basis of logical and critical thinking. However, the integration of the two-in-one systematic learning approach is still rarely studied in depth. **Methods:** This study used a qualitative approach with data collection techniques in the form of in-depth interviews, participatory observations, and documentation. The subjects of the study are teachers and parents of B1 grade students at KB Islamic Kindergarten Al Azhar 28 Solo Baru. **Results:** The results show that: (1) the habituation of Islamic manners can be carried out effectively through parental assistance using the ICARE method in a pleasant learning atmosphere, (2) the mastery of science competence can also be improved through the same approach, and (3) there is a positive synergy between the habituation of Islamic manners and the mastery of scientific competence with the application of the holistic ICARE method. **Implications:** The implication of this study is the importance of collaboration between teachers and parents in character-based learning and science simultaneously. **Novelty:** The novelty of this research lies in the integration of Islamic manners and scientific competence in an ICARE-based methodological approach at the PAUD level, which has not been widely studied before.

Keywords: icare, habituation of manners, science competency, early childhood education, integrated learning.

INTRODUCTION

Early childhood education is the main foundation in the formation of a person's character and intellectual intelligence. During this period, children are in a golden period of brain, social, emotional, and spiritual development that must be directed appropriately and comprehensively [1]. In the context of Islamic education, it is important to instil the values of manners (ethics and noble morals) from an early age, along with a contextual and fun introduction to science (science). Therefore, a learning approach is needed that not only educates cognitively but also shapes children's personalities holistically [2].

KB Islamic Kindergarten Al Azhar 28 Solo Baru as one of the Islamic educational institutions seeks to realize synergy between the values of manners and science through the application of the ICARE (Introduction, Connect, Apply, Reflect, Extend) learning method. The ICARE method provides an interactive, applicative, and reflective learning approach, which encourages children to be actively involved in the learning process. In its application in KB Islamic Kindergarten Al Azhar 28 Solo Baru, this method is modified with a touch of Islamic values, so that learning not only educates intellectuals but also forms a civilized Islamic character [3].

The synergy between adab and science is important to be applied from an early age as a form of integration between spiritual and rational aspects in education. Through the ICARE approach, children are introduced to good values such as honesty, compassion, and responsibility, as well as being invited to explore natural phenomena and the surrounding environment through simple experiments and observations [4]. This study aims to describe how the ICARE method is applied in KB Islamic Kindergarten Al Azhar 28 Solo Baru and how the synergy of manners and science is formed in the early childhood learning process. With a structured and contextual approach, it is hoped that early childhood education will not only produce academically intelligent children but also have noble character and are ready to become a generation of lifelong learners [5], [6].

According to Sudono, because children's world is playing, learning can be done through play activities while learning or learning while playing. Play is an activity that is carried out with or without the use of tools that produce understanding provide information, give pleasure, or develop imagination to children [7], [8].

Safitri in her research showed that there was an influence of the ICARE learning model on student learning outcomes on salt hydrolysis materials at MAS Al Furqan Bambi. The analysis of the average percentage of student responses was 85.62%, which was very like [9], [10].

Summarily, based on existing research that is relevant to this research, it can be summarized that the ICARE model is liked by students, improves learning processes and outcomes, improves character, instils religious morals, teaches science, and the family has a role in the development of children's character and knowledge. What has not been researched in the journal is the use of the ICARE model in synergizing between the habituation of manners and the mastery of science competencies for early childhood. The existing journals are drawn in the fishbone diagram below [11], [12].

LITERATURE REVIEW

ICARE

In the study, it was explained that the ICARE (Introduction, Connection, Application, Reflection, Extension) learning model. In Indonesia, the ICARE learning model was introduced in 2006 through the Decentralized Basic Education (DBE) program which conducts teacher training and learning processes in schools. As a learning model, ICARE has stages starting from the stages of planning, implementation, and finally evaluation. The stages of the ICARE learning model start from the preparation of subject matter, analysis of

class needs, and contextual developments such as the development of the business and industrial world [11], [12].

a. Phase One, *Introduction*

At this learning stage, the teacher instils an understanding of the content of the lesson to the students. This section contains an explanation of the purpose of the lesson and the results that will be achieved during the lesson.

b. Second Phase, Connection

At the *connection* stage of the lesson, the teacher tries to connect the new knowledge with something that the student already knows from previous learning or experience.

c. Third Phase, Application

This stage is the most important stage of learning. After students gain new knowledge or skills through *the connection* stage, they need to be allowed to practice or apply that knowledge and skills.

d. Fourth Phase, Reflection

This section is a summary of the lesson, while students have the opportunity to reflect on what they have learned.

e. Fifth Phase, Extension

Just because the lesson time is over, does not mean that all students who have studied can automatically use what they have learned [13]–[15].

Manners

According to al-Attas, etymologically, adab comes from the Arabic language namely *addaba-yu'addibu-ta'dib* which has been translated by al-Attas as 'educate' or 'education'. According to Erzad, parents have the main responsibility for children's adab education, this adab education should start from an early age or childhood. Because of the importance of this adab, previous scholars exemplified the importance of adab education before learning knowledge [16]–[18].

Science Competency

The term "science" comes from the Latin *"scientia"* which means knowledge [19], [20]. This definition shows that science has a very broad scope based on *the Webster New Collegiate Dictionary*, the definition of science is knowledge gained through learning and proof, or knowledge that encompasses a general truth of the laws of natural law that occurs that is obtained and proven through the scientific method [21]–[23]. According to Latifah, science is a way of finding out about nature systematically to master knowledge, facts, concepts, principles, discovery processes, and attitudes. Based on these two definitions, it can be explained that science is a system used to acquire knowledge through certain methods to describe or explain phenomena that occur in nature [24]–[27].

METHODOLOGY

The type of research used in this study is qualitative research. This qualitative type was chosen to obtain comprehensive data [28]–[30]. Primary data is data obtained directly during the research. From the first source, namely Class B1 Shofa students at KB Islamic Kindergarten Al Azhar 28 Solo Baru. The data collected were in the form of expressions/opinions and student behavior about everything related to manners and science [31]–[34].

Secondary data was obtained from interviews with parents/guardians of students.

Table 1. Research Methods

Aspects	Description
Types of Research	Qualitative
Method Selection Objectives	To obtain comprehensive data.
Primary Data Sources	Grade B1 Shofa, KB Islamic Kindergarten Al Azhar 28 Solo Baru
Primary Data Form	Expressions, opinions, and behaviors of students related to manners and science
Secondary Data Sources	Parents/guardians of students
Data Collection Methods	Interviews, observations, and documentation
Primary Data-Related References	Primary data is data obtained directly.

RESULTS AND DISCUSSION

This *best practice presentation* presents the application of the ICARE (*Introduction, Connection, Application, Reflection, Extension*) method in habitualizing manners and mastering science carried out in class B1 Shofa.

Table 2. Application of the ICARE Method

Yes	Sintaks ICARE	Habituation of Manners	Science Competency	*Fun Activity*
1	*Introduction*	Saying and answering greetings Giving thanks and praying to Allah Saying prayers to the Prophet Recitation of the Qur'an Akhlaqul karimah	Concept of time (day, date, month, year)	Movement of songs about ships/boats "My Ancestors Were Sailors
2	*Connection* (to machine)	Saying bismillah before work Paying attention when the teacher explains, being polite in the assembly	The concept of sinking, floating, floating	Watch a video of a ship sailing
3	*Application*	Reciting prayers on a vehicle/ship/boat Get used to saying hamdallah if it works Get used to saying istighfar if it has not worked	Placing paper on water vertically (submerged concept) Laying paper on water horizontally (floating concept) Laying a boat out of paper on water (floating concept)	Science practice
4	*Reflection* (refleksi)	Get used to saying hamdallah when completing work.	The teacher explained the concept of sinking, floating, and floating from the results of the	Science presentation Discussion and

			practicum.	Q&A
5	*Extention* (expansion)	Get used to saying InshaAllah	The teacher challenges the students to put the wire clip so that they can float.	*Sains Challenge*

1. Learning Preparation

Learning preparation is made 1 week before, teachers plan learning activities by preparing the Weekly Learning Implementation Plan (RPPM) and Daily Learning Implementation Plan (RPPH) by referring to the KP2M curriculum, Annual Program, Group B Semester Program of Al Azhar Islamic Kindergarten 28 Solo Baru which has been adjusted for learning activities [35], [36].

2. Learning Implementation

There are 5 stages of activities during the implementation of learning by the syntax of the ICARE method. *Introduction*, *Connection, Application, Reflection*, *Extention*.

a. Introduction Stage

Learning activities are opened by giving and answering greetings between teachers and students, greeting between students and teachers or between students, asking how the children are doing and the situation today, 2 or 3 students tell about the good that has been done today. Followed by singing/moving songs along with the song "My Ancestors are a Sailor" While doing physical movements (clapping their hands, dancing), the teacher asked the day, date, month, and year, absent the students by calling their names one by one. Reminded of the manners of praying, one of the students led the vows and prayers of his friends. Students together say vows, pray to learn, pray for more knowledge and muroja'ah memorize short letters. *One day one* additional verse of memorization of new verses of the memorized letter is led by the teacher with *the talaqi* model [37], [38].

Habituation of Manners that is habituated at the *Introduction stage*.

1). Manners of meeting teachers and friends

Giving and greeting when meeting others, having a sweet face with a smile, being polite when answering or saying hello.

2). Manners to Allah

Always grateful for Allah's blessings, say Alhamdulillah, my good news, Alhamdulillah, today I am healthy.

3). Manners to Rasulullah

Always pray for the Prophet Muhammad SAW when pledging.

4). Manners to the Qur'an

Getting used to reciting the Qur'an every day, starting with reciting ta'awudz and bismillah during muroja'ah and memorizing verses of the Qur'an.

5). Learning manners

Pray before studying.

6). Manners towards Islam

Practicing the morals of karimah through stories of kindness delivered by 2 or 3 students every day.

Science activities that arise at the *Introduction stage*; The concept of time. The date of the month of ahun is now, yesterday, tomorrow, the day after, and also. The following are the basic competencies that are raised through the *Introduction* stage:

1). Manners towards the Qur'an and reciting the Qur'an

2). Saying and answering greetings, saying the sentence thoyyibah mashaAllah when amazed to see the video of a ship sailing on the sea.

3). Acknowledging the deeds he has done through the stories of kindness shared

4). Shaykh and its Meaning

5). Saying a prayer to learn, a prayer for more knowledge, and a prayer for both parents, muroja'ah a short letter and adding memorization of 1 verse everyday verse

6). Speak politely, greet friends when they meet, pay attention to teachers or friends when talking, and say thank you after their friend leads prayers and vows.

7). Students practice body flexibility and agility when performing song movements.

8). Greeting friends and adults, saying in a soft and polite voice

9). Dare to lead his friends in prayer and muroja'ah memorization

10). Humming or singing

b. Connection stage

At this stage, the teacher enters into a learning contract with the student, which is a mutual agreement when learning activities take place in an orderly and smooth manner and remind the learning manners. Then the teacher plays a video about the largest ship in the world for *the theme apperception activity*, to open up students' new knowledge. Students listen to and observe the video, then conduct discussions and questions and answers related to the video that has been viewed [39]–[41]. The following is the refraction of manners that are habituated through the *Connection level*.

1). Manners demand knowledge; Be silent and pay attention as the teacher explains directly or while watching the video.

2). Assembly manners; Pay attention to politeness during discussions, do not interrupt the conversation of friends and teachers, and ask permission if you want to express your opinion.

3). Manners demand knowledge; Be silent and pay attention when knowledge is imparted.

Science activities that arise at the *Introduction stage*;

1). Children understand the concept of floating

An object is called floating when it partially appears above the surface of the water, and some of it enters the water.

2). Children understand the concept of drifting.

An object is said to float in water when the object is in the middle of water. This can happen when:

3). Children understand the concept of drowning

An object is said to be submerged in water if all parts of the object are at the bottom of the water's surface. This happens when:

The following are the basic competencies that arise through the *Connection* stage:

1). Speak in a soft and polite voice when conveying his ideas during the discussion (KD 2.14. Have behavior that reflects a polite attitude towards old people, educators, and friends)

2). Answering questions from teachers or friends during discussions, revealing the content of the video seen when asked by the teacher (KD 3.11-4.11. Showing expressive language, expressing language verbally and non-verbal)

c. Application Stage

Students learn about manners when riding a vehicle because of what we learned this week about the theme of marine vehicles. The mentalaqi teacher prays in a vehicle and the students imitate it repeatedly.

سُبْحَانَ الَّذِى سَخَّرَ لَنَا هَذَا وَمَا كُنَّا لَهُ مُقْرِنِينَ وَإِنَّا إِلَى رَبِّنَا لَمُنْقَلِبُونَ

Students got the first task, namely the manners of memorizing prayers on a sea vehicle by sending *a voice* to *the Google classroom*. In the second learning activity, children will practice science experiments about floating and sinking with tools and materials that students have prepared beforehand.

Students read the bismillah before conducting a science experiment, then conducted their science experiment by placing paper that had been folded in the shape of a boat into a basin, and then observed the folds of the ship floating, floating, or sinking. Next, students insert prepared paper clips into a basin that is given water, just as the first step students observe paper clips that are put into water in a floating, floating, or sinking basin [42], [43].

The teacher ensures that all students have done their science experiments one by one until they are finished. By asking each student.

The following is the habituation of manners that can be habituated in the *Application* phase:

1). Adab riding a vehicle (sea); Reciting the prayer on a sea vehicle

2). Manners to Allah; Always start the activity by reading the basmallah, say thank God when you succeed, and say istighfar if it has not succeeded.

3). Manners demand knowledge; Be diligent when studying

Science activities that are raised at the *Application stage* are science practices carried out as follows;

1) Laying a paper boat on water (floating concept)

2) Laying paper on water horizontally (floating concept)

3) Placing paper on water vertically (submerged concept)

The basic competencies that students can bring up in this *Application* phase are;

1) Eye and hand coordination when placing a boat or paper clip on the water in a basin. Using the limbs, their functions, and movements for gross and fine motoric development)

2) Applying experience, solving simple problems through science activities. Have behaviors that reflect curiosity)

3) Solving a simple problem, which is being able to practice science. Know how and be able to solve everyday problems creatively)

4) Perform 3-5 commands while doing science activities. Demonstrate receptive language skills, listening and reading)

d. Reflection Stage

In the *Reflection stage*, the teacher allowed students to present the results of their science practice and observations, the students conveyed the reasons why the folds of the paper boat floated and the paper clips immediately sank when they were put into the water basin.

Teachers and students then discuss together and hold questions and answers, and ask students about what they learned today [44], [45].

The following are the habits of manners that can be habituated in *the Reflection* stage:

1). Manners to Allah; Always say hamdallah after doing activities.

2). Assembly manners; Pay attention to politeness during discussions, do not interrupt the conversation of friends and teachers, ask permission if you want to express opinions, and maintain the conversation in the assembly

Science activities that arise in the *Reflection* stage are science practices that are carried out as follows:

1). Student-made science presentations.

2). Teacher's explanation of the concept of sinking, drifting, and floating from the results of the practicum carried out by students.

The basic competencies that can be raised for students at this *Reflection* stage are;

1). Answering the teacher's questions, perform 3-5 commands while doing science activities. Demonstrate receptive language skills, listening and reading).

2). Tell me about what he has done. Demonstrate expressive language skills (verbally and nonverbally expressed).

e. Extention Stage

At this stage, the teacher gives assignments, in the form of science challenges or *science challenges* to students. The teacher gave the student a challenge "How to make a wire clip made of iron float above the surface of the water in a basin".

Students practice this *science challenge*, the teacher asks 2 or 3 students who are successful with *the science challenge* to convey how students can do it, and the techniques that are used.

The teacher also asked 2 or 3 students who had not succeeded with the *science challenge* to express their opinions on why they had not succeeded.

The teacher asks the children how they feel when doing science practice, gives *rewards* and awards in the form of Jinggo pats to all students who have done science practice, and motivates students to keep their enthusiasm for learning and trying [46]–[48].

Teachers and students read Hamdallah, the closing prayer of the assembly and greetings.

The following is the habituation of manners that can be habituated in the *Extention* stage:

1). Adab to Allah: Saying hamdallah after doing the activity, saying God willing, to meet tomorrow.

2). Manners of Seeking Knowledge: Practicing knowledge when practicing *science challenges*, reading prayers after learning

3). Manners to teachers and friends: Say hello when you finish learning activities

Science activities that can be raised at the *Extension* stage include: the *Science Challenge* (science challenge) for students, which is to make a wire clip made of iron floating above the surface of the water in a basin.

The basic competencies that can be raised for students in this *Extention* phase are:

1). Students can solve simple problems, which are using tools such as; plastic forks, tweezers, and ice cream sticks to put paper clips on water, carefully place paper clips, and concentrate on water to float.

2). Answer the teacher's questions. Demonstrate receptive language skills, listening and reading)

3). Tell me about what he has done. Demonstrate expressive language skills (verbally and nonverbally expressed)

4). A cautious attitude when practicing science. Have behaviors that reflect self-confidence) [49].

CONCLUSION

Based on the exposure of the implementation and the results of best practice, it can be concluded: 1). By using the ICARE method, it can familiarize students with Islamic manners in kindergarten class B1 Shofa KB Islamic Kindergarten Al Azhar 28 Solo Baru. The ICARE method can stimulate students' Islamic manners, such as manners to Allah SWT, to the Prophet, to the Qur'an, meeting teachers and friends, seeking knowledge, assembly, and traveling. The ICARE method through a series of science practice principles can also accommodate 6 aspects of development that students must do when carrying out their learning activities. Among them are the specs of religious development, morals, physical, motor, cognitive, language, social-emotional, and art. 2). By using the ICARE method, it can teach science mastery to students of kindergarten class B1 Shofa KB Islamic Kindergarten Al Azhar 28 Solo Baru. 3). The implementation of learning with ICARE can synergize the habituation of manners and mastery of science in grade B1 students of Shofa KB Islamic Kindergarten Al Azhar 28 Solo Baru. Suggestion: Based on the results of the study showing that the ICARE (Introduce, Connect, Apply, Reflect, Extend) approach is effective in integrating the values of manners and science in early childhood learning, the researcher suggests that teachers are expected to apply it in learning activities, educational institutions support it through training and facilities, and parents play a role in strengthening these values at home. Further research is suggested to expand the application and measure its impact more deeply.

Author Contribution

Hesti Sunarti takes full responsibility and recognizes her active and complete contribution in conceptualizing, implementing, analyzing, and completing this research titled "ICARE: Building Synergy between Adab and Science in Early Childhood." May this work benefit future educational practices and inspire holistic learning in early childhood education.

Conflicts of Interest

All authors declare no conflict of interest.

REFERENCES

[1] S. Zaenab, "The Role of Pedagogical Documentation in Early Childhood Education in Indonesia," *J. Ethn. Cult. Stud.*, vol. 9, no. 3, pp. 194–211, 2022, https://doi.org/10.29333/ejecs/1280.

[2] D. Nuritasari and J. Julianto, "Pengelolaan Lingkungan Belajar Indoor Dengan Model Pembelajaran Sentra Di Paud," *PAUD Teratai*, vol. 4, no. 2, pp. 1–6, 2015.

[3] D. Dahliani, A. Yus, and M. Sitorus, "Development Analysis of Ability Memorizing the Qur'an on Early Childhood in PAUD Bait Qurany Saleh Rahmany, Banda Aceh, Indonesia," *Budapest Int. Res. Critics Linguist. Educ. J.*, vol. 2, no. 4, pp. 185–190, 2019, https://doi.org/10.33258/birle.v2i4.506.

[4] R. Hartati, M. Muthoifin, and M. Jinan, "Smartphones And The Effect Of Its Use In Early Children On Students' Learning Interest," *Profetika J. Stud. Islam*, vol. 24, no. 01, pp. 149–158, Mar. 2023, https://doi.org/10.23917/profetika.v24i01.1741.

[5] K. Imanina, "Penggunaan Metode Kualitatif dengan Pendekatan Deskriptif Analitis dalam PAUD," *J. AUDI J. Ilm. Kaji. Ilmu Anak dan Media Inf. PAUD*, vol. 1, no. 1, pp. 45–48, 2020, https://doi.org/10.31932/jpaud.v1i2.387.

[6] D. E. Cahyaningrum and D. Diana, "Proyek Penguatan Profil Pelajar Pancasila sebagai Implementasi Kurikulum Merdeka di Lembaga PAUD," *J. Obs. J. Pendidik. Anak Usia Dini*, vol. 7, no. 3, pp. 2895–2906, 2023, https://doi.org/10.31004/obsesi.v7i3.4453.

[7] R. Devianti, "Educational Guidance and Counseling Development Jounal Prosedur Teknik Bimbingan Konseling untuk Anak Usia Dini," *Educ. Guid. Couns. Dev. Jounal*, vol. 6, no. 1, pp. 71–79, 2023.

[8] D. Safira, "Design Character Education Learning Using the Holistic Approach in Kindergarten," vol. 405, no. Iclles 2019, pp. 18–23, 2020, https://doi.org/10.2991/assehr.k.200217.004.

[9] C. J. Indranata and D. H. Imawan, "Kitab Adabul 'Alim Wal Mut'Allim the Work of K.H. Hasyim Asy'Ari in the Development of Modern Islamic Education," *Profetika J. Stud. Islam*, vol. 23, no. 2, pp. 272–280, 2022, https://doi.org/10.23917/profetika.v23i2.19661.

[10] N. Syakirin Ghozaly, M, "al-Qimah al-Tarbawiyyah fi Kitab al-Mahfudzat al-Maudhuiyyah an Al-Ilmi wa al-Adab li Ibni Arif," *Profetika J. Stud. Islam*, vol. 1, no. Profetika, pp. 102–112, 2020, https://doi.org/10.24235/ijas.v1i2.5273.

[11] I. F. Nurdin, "Perbandingan Konsep Adab Menurut Ibn Hajar Al-'Asqalany dengan Konsep Pendidikan Karakter di Indonesia," *J. Pendidik. Islam*, vol. 4, no. 1, p. 159, 2015, https://doi.org/10.14421/jpi.2015.41.159-187.

[12] N. N. I. Novita, "Penguatan Etika Digital Melalui Materi 'Adab Menggunakan Media Sosial' Pada Mata Pelajaran Pendidikan Agama Islam Dalam Membentuk Karakter Peserta Didik Menghadapi Era Society 5.0," *J. Educ. Learn. Sci.*, vol. 3, no. 1, pp. 73–93, 2023, https://doi.org/10.56404/jels.v3i1.45.

[13] S. Saeed, N. Alsheikh, N. Alhosani, M. P. Opoku, and H. Elhoweris, "Understanding the moderators of parental involvement in the early schooling of children in neoliberal and multicultural societies," *Int. J. Educ. Res. Open*, vol. 7, 2024, https://doi.org/10.1016/j.ijedro.2024.100333.

[14] J. L. Baldwin, S. M. Adams, and M. K. Kelly, "Science at the center: An emergent, standards-based, child-centered framework for early learners," *Early Child. Educ. J.*, vol. 37, no. 1, pp. 71–77, 2009, https://doi.org/10.1007/s10643-009-0318-z.

[15] R. Agustin and I. Amelia, "Early Moral Cultivation to Build and Improve the Character of Millennial Youth," *Solo Int. Collab. Publ. Soc. Sci. Humanit.*, vol. 1, no. 2, pp. 132–142, 2023, https://doi.org/10.61455/sicopus.v1i02.61.

[16] W. Stai and M. Blora, "Studi Tokoh Novel Hafalan Shalat Delisa Karya Tere Liye," *J. Pedagog.*, vol. 17, no. 1, pp. 73–85, 2024.

[17] A. Nurhartanto, "Upaya Meningkatkan Nilai-Nilai Moderasi Beragama Di STAI Muhammadiyah Blora Melalui Penguatan Pemahaman Kaidah Kaidah Ushul Fiqih," *J. Pedagog.*, vol. 21, 2022, [Online]. Available: http://www.jurnal.staimuhblora.ac.id/index.php/pedagogy/article/view/140%0Ahttps://www.jurnal.staimuhblora.ac.id/index.php/pedagogy/article/download/140/127

[18] Widodo, "Mengkritisi Faktor-Faktor Kegagalan," *J. Ilm. Pedagog.*, vol. 14, no. 1, pp. 110–125, 2019.

[19] N. H. Ihsan, Jamal, A. R. Kusuma, M. D. A. B. Sakti, and A. Rahmadi, "Worldview Sebagai Landasan Sains dan Filsafat: Perspektif Barat dan Islam," *J. Reflektika*, vol. 17, no. 1, pp. 31–61, 2022.

[20] Jendri, "Hubungan Sains dengan Agama Perspektif Pemikiran Ian G Barbour," *Tajdid J. Ilmu Ushuluddin*, vol. 18, no. 1, pp. 57–78, 2019, [Online]. Available: http://www.tajdid.uinjambi.ac.id/index.php/tajdid/article/view/90

[21] N. U. Isaac, "Early Childhood Care Education (ECCE) and National Security," *Solo Int. Collab. Publ. Soc. Sci. Humanit.*, vol. 2, no. 3, pp. 282–293, 2024, https://doi.org/10.61455/sicopus.v2i03.203.

[22] M. Hanafi, Jumiatmoko, F. Muhammad, N. Wiyono, and T. D. Ardyanto, "Quran memorization and early childhood development: A case-control with neuroscience approach," *Bali Med. J.*, vol. 10, no. 2, pp. 697–700, 2021, https://doi.org/10.15562/bmj.v10i2.2265.

[23] K. J. Perry and J. M. Ostrov, "Trajectories of physical and relational aggression across early childhood: Relations with peer risk factors," *Aggress. Behav.*, vol. 49, no. 4, pp. 321–332, 2023, https://doi.org/10.1002/ab.22075.

[24] A. Nurhartanto, "Metode Penafsiran Dalam Ushul Fiqih Kontemporer: Kajian Terhadap Pendekatan Literal Dan Kontekstual," *J. Pedagog.*, vol. 16, no. 1, pp. 55–66, 2023.

[25] S. Anwar, "Pembelajaran Studi Islam Dalam Konsepsi Literasi Digital di Era Disruptif," *J. Ilm. Pedagog.*, vol. 16, no. 1, pp. 157–178, 2021, [Online]. Available: http://www.jurnal.staimuhblora.ac.id/index.php/pedagogy/article/view/92%0Ahttp://www.jurnal.staimuhblora.ac.id/index.php/pedagogy/article/download/92/84

[26] S. Anwar, "Sekularisme Dan Studi Islam (Anwar)," *J. Ilm. Pedagog.*, vol. 14, no. 1, p. 81, 2019, [Online]. Available: https://scholar.googleusercontent.com/scholar?q=cache:nhDldQsPwV4J:scholar.google.com/+sekulerisme&hl=id&as_sdt=0,5

[27] Widodo, "Objek Kajian dan Urgensi Mempelajari Sejarah dan Peradaban Islam," *J. Pedagog.*, vol. 10, no. 3, pp. 7–11, 2017, [Online]. Available: http://jurnal.staimuhblora.ac.id/index.php/pedagogy/article/view/62

[28] S. Anwar and S. Rosyidah, "Development Of Islamic Personality In The Digital Era With A Monotheism-Based Character Education Model," *J. Pedagog.*, vol. 17, no. 2, 2024.

[29] R. Murtyaningsih, "Implementasi Metode Pembelajaran Everyone Is a Teacher Here Untuk Meningkatkan Prestasi Belajar Pendidikan Agama Islam Di Smk Muhammadiyah 2 Blora," *J. Ilm. Pedagog.*, vol. 8, pp. 140–159, 2017.

[30] K. Sholeha and W. Salsabilla, Najwa, "Moral Development Strategy In The Era Of Artificial Intelligence (AI)," in *1st International Conference On Islamic Education And Islamic Business (ICoBEI) Islamic Studies Faculty Universitas Islam Riau 2024*, 2024, pp. 2022–2025.

[31] A. Nurhartanto and R. Murtyaningsih, "The Concept of Children ' s Education in Islam Based on Surah Luqman Verses 13-15 : A Comparative Analysis of the Tafsir of Sayyid Qutb, M . Quraish Shihab, and Ibn Kathir," *Bull. Islam. Res.*, vol. 3, no. 2, pp. 387–396, 2025, https://doi.org/10.69526/bir.v3i2.339.

[32] M. N. U. Sukisno, Sholihul Anwar, "Pendidikan islam di era society 5.0 sebagai upaya pengembangan ilmu pengetahun," in *Prosiding Seminar Internasional*, 2023, pp. 275–283.

[33] R. Murtyaningsih, "Manajemen Kurikulum Pendidikan Islam Di Masa Pandemi," *J. Ilm. Pedagog.*, vol. 17, no. November 2021, https://doi.org/10.20414/jpk.v17i1.3464.

[34] Rina Murtyaningsih, "Implementasi Manajemen Pendidikan Dalam Mengembangkan Lembaga Pendidikan Islam," *J. Ilm. Peda*, vol. 15, no. 1, pp. 1–6, 2023, https://doi.org/10.32832/tawazun.v15i1.7111.

[35] N. Aeny, M. Sholikhah, W. I. Sari, I. Amaliyah, and A. F. Hidayatullah, "Fenomena Sains Dalam Al-Qur'an Perspektif Ian G. Barbour Dan Ismail Raji Al-Faruqi Science Phenomena in the Qur'an of Ian G. Barbour and Ismail Raji Al-Faruqi," *J. Yaqzhan*, vol. 6, no. 1, 2020, https://doi.org/10.24235/jy.v6i1.5541.

[36] Anshori and Z. Abidin, "Format Baru Hubungan Sains Modern Dan Islam (Studi Integrasi Keilmuan Atas Uin Yogyakarta Dan Tiga Uinversitas Islam Swasta Sebagai Upaya Membangun Sains Islam Seutuhnya Tahun 2007-2013)," *Profetika J. Stud. Islam*, vol. 15, no. 1, pp. 90–108, 2014.

[37] Mahmudulhassan, Muthoifin, and S. Begum, "Artificial Intelligence in Multicultural Islamic Education : Opportunities, Challenges, and Ethical Considerations," *Solo Univers. J. Islam. Educ. Multicult.*, vol. 2, no. 1, pp. 19–26, 2024, https://doi.org/10.61455/sujiem.v2i01.114.

[38] M. Silvano, Octaviana, "Imam Al-Ghazali's Thoughts on Universal Leadership: A Study of Political Ethics Insights," *J. World Thinkers*, vol. 1, no. 2, pp. 99–108, 2024.

[39] Rina Murtyaningsih, "Kontribusi Etos Kerja Islami Terhadap Kinerja Dosen," *J. Ilm. Pedagog.*, vol. 16, no. 1, p. 187, 2021, [Online]. Available: http://jurnal.radenfatah.ac.id/index.php/El-idare/article/view/675/607

[40] S. Sholihul Anwar, "Tinjauan Konsep Prulalis Dan Multikulutral Dalam Pendidikan Agama Islam," *J. Pedagog.*, vol. 17, no. April, pp. 118–127, 2024.

[41] Rochman Natawidjaja, "Peranan Guru dalam Bimbingan," *J. Ilm. Pedagog.*, vol. 12, p. 6, 1989.

[42] M. R. S. Izurrohman, M. Z. Azani, and ..., "The Concept of Prophetic Education According to Imam Tirmidzi in the Book of Syamail Muhammadiyah," *Solo Int. Collab. Publ. Soc. Sci. Humanit.*, vol. 1, no. 1,

pp. 52–61, 2023, https://doi.org/10.61455/sicopus.v1i01.33.

[43] I. Trisakti *et al.*, "Development and Thinking of Classical Islamic Pharmacy Towards a Progressive and Sustainable Pharmacy," *Solo Int. Collab. Publ. Soc. Sci. Humanit.*, vol. 1, no. 2, pp. 107–118, 2023, https://doi.org/10.61455/sicopus.v1i02.54.

[44] Y. M. Fauzin and M. T. Affandi, "Professional Teachers and Bright Students in the View of the Qur'an and Prophetic Education," *Solo Univers. J. ...*, vol. 1, no. 3, pp. 182–194, 2023, https://doi.org/10.61455/sujiem.v1i03.71

[45] T. Sanyoto, N. Fadli, R. Irfan Rosyadi, and M. Muthoifin, "Implementation of Tawhid-Based Integral Education to Improve and Strengthen Hidayatullah Basic Education," *Solo Univers. J. Islam. Educ. Multicult.*, vol. 1, no. 01, pp. 30–41, 2023, https://doi.org/10.61455/sujiem.v1i01.31.

[46] N. Hakim, "Ethics of Buying and Selling Online Sharia Economic Perspective: Study of the Concept of Iqâlah," *Demak Univers. J. Islam ...*, vol. 1, no. 1, pp. 18–26, 2023, https://doi.org/10.61455/deujis.v1i01.22

[47] M. Abuzar, L. Yafi, I. Afiyah, and I. Amelia, "Strategy and Implementation of Islamic Personality Development through the Internalization of Religious Values at Madrasah Aliyah Dakka, Bangladesh," *Solo Univers. J. Islam. Educ. Multicult.*, vol. 2, no. 2, pp. 167–180, 2024, https://doi.org/10.61455/sujiem.v2i02.201.

[48] Y. F. Ulfah, A. E. Rochmawan, and F. Alhasbi, "Islamic Ethics Education Concept For Gen Z: Ibn Miskawayh ' S View On Philosophy," *Profetika J. Stud. Islam*, vol. 25, no. 1, pp. 211–222, 2024, https://doi.org/10.23917/profetika.v25i01.4391.

[49] Waston, "Hubungan Sains dan Agama: Refleksi Filosofis atas Pemikiran Ian G. Barbour," *Profetika J. Stud. Islam*, vol. 15, no. 1, p. 80, 2014.