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Measuring The Role of Science as Basis of Student Character Development in Islamic Education Learning

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Abstract: *The purpose of this study is to analyze the role of science as the basis for student character formation in Islamic Religious Education (PAI) learning. This study is important to carry out considering that the problem of the nation's moral deterioration is getting heavier. There are many cases of sexual violence, narcotics abuse, plagiarism, and others. Islamic Religious Education is one of the subjects that plays a role in shaping student character. For this reason, there needs to be improvements and improvement in the quality of teaching. One way is to use science as an approach to spreading Islamic Religious Education. The method used is a literature review by reviewing several relevant literature. Data processing techniques with three stages, namely editing, classifying, and concluding. Meanwhile, the analysis uses content analysis. The results of the study show that to form the character of students, science plays a role as the basis or learning approach of Islamic Religious Education. In science, there are several aspects that can be used to build morals or character, such as observing/observing, classifying, communicating, measuring, predicting, and making inferences, analyzing, conducting investigations, and conducting experiments. From this process, students practice with scientific attitudes such as logical and sequential thinking (systematic), creative, innovative, rich in inspiration, and sportsmanship.*
Keywords: *Islamic Education, Science, Student Character,*

INTRODUCTION

In this global era fraught with ethical and moral issues (Chanifah et al., 2021). Fenomena krisis moral di perguruan tinggi seperti kecurangan akademik, plagiarisme, hingga komersialisasi nilai menunjukkan bahwa pendidikan tinggi belum sepenuhnya berhasil menyentuh dimensi karakter dan integritas peserta didik (Deddy et al., 2025). Berbagai studi internasional tentang *academic dishonesty* menegaskan bahwa kecurangan di kampus merupakan fenomena global yang berkaitan erat dengan lemahnya internalisasi nilai moral dan agama dalam proses pembelajaran (Oktaviyani et al., 2022). Dalam konteks ini, Pendidikan Agama Islam (PAI) di PTU yang hanya 2 SKS sering kali terjebak pada penguatan kognitif dan hafalan, sehingga belum

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optimal menggarap ranah afektif dan psikomotor yang dibutuhkan untuk membentuk akhlak mulia dan budaya kejujuran akademik (K et al., 2024).

There needs to be a drastic change in mental attitudes in Indonesian society which is full of various moral, ethical, and spiritual crises. Especially in recent years, it has been shocked by several irregularities committed by students and lecturers, such as the many cheating phenomena, the loss of shame, and the development of plagiarism (plagiarism). At a well-known university, it was revealed that the dissertation of a promovendus copied the thesis of the work of his mentor. Ironically, there are a number of professors who also commit plagiarism. Meanwhile, it is common knowledge that there are lecturers at certain universities who can easily give an A grade if students who are going to take the semester exam are willing to pay some money.

As one of the personality formation courses (MPK) in Public Universities, Islamic Religious Education has an important role in overcoming this problem (Azra, 2018). The reason is because of the cultivation of correct morals, one of which can be through Islamic Religious Education (Attas, 1999). The sending of the Prophet Muhammad Saw was, among other things, to eradicate the *jahilliyyah* behavior of mankind, to build human civilization with noble character or morals. As the Prophet Muhammad said:

عَنْ أَبِي هُرَيْرَةَ ، عَنِ النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ: إِنَّمَا بُعِثْتُ لأُتَمِّمَ مَكَارِمَ الأَخْلاق

Meaning: "*Indeed, I was sent (to be a Messenger) solely to perfect noble morals".*

Furthermore, noble character or morals are one of the indicators of the perfection of a believer's faith. As the Prophet Muhammad said:

عَنْ أَبِي هُرَيْرَةَ قَالَ قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ: أَكْمَلُ الْمُؤْمِنِينَ إِيمَانًا أَحْسَنُهُمْ خُلُقًا وَخِيَارُكُمْ خِيَارُكُمْ لِنِسَائِهِمْ خُلُقًا

Meaning: "*The believer whose faith is most perfect is the one who has the best morals. The best among you is the best in morals towards his partner."*

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The above hadith should be the foundation in Islamic Education learning (PAI), that PAI should be able to touch affective and psychomotor aspects so that it can form morals (Chanifah, 2020b). However, in the PAI learning process that is carried out is often only limited to memorization and knowledge debriefing, not so much touching concrete aspects of attitudes and behaviors, so that it is not able to change the character that is still limited to knowledge. This can be seen from the fact that the education is still busy with learning activities which are only lectures and assessments generally still focus on the aspects of mastery of knowledge and scientific memorization *(knowledge)* alone (Chanifah & Samsudin, 2019).

Of course, it is not an easy thing to implement, because Islamic Religious Education at PTU is given only 2 credits. Meanwhile, student morals have been formed at the previous level of education (PAUD to high school). This is a challenge for PAI lecturers on how to shape student morals in a relatively short time (Chanifah, 2020a).

This fact prompted the author to look for a new model of Islamic Religious Education learning that is in accordance with the demands of the times. In this case, the author tries to use science as the basis for the formation of student character in Islamic religious education at the University. There are several reasons underlying this idea:

First, the first verse of the Qur'an, Surah al-'Alaq (96) verses 1-5, affirms the command to mankind to *iqra'* (reading).. This verse requires Muslims to always "read" (convey, study, deepen, research, know the characteristics of something, and read the text, whether written or not) based on "*bismi rabbik"*, in the sense that the results of the reading can later be useful for humanity.

Second, the Qur'an Surah Ibrahim verses 24-25 which means *"24. Have you not noticed how Allah has made a parable of a good sentence like a good tree, whose roots are firm and whose branches (rise) to the heavens, 25. the tree bears its fruit in every season with the permission of its Lord. Allah made these parables for people so that they would always remember.* The verse describes the integrity of faith, knowledge, and righteous deeds with a tree whose roots reach to the earth, whose trunk towers high, and bears fruit in every season. Here it is revealed that faith is

the root, knowledge is the stem that will eventually bear fruit, namely morality (Faqih, 2013). Thus, science can be used as a medium to build morals.

Third, Nature is not only a source of science (science), such as mathematics, physics, or biology, but also a source of spiritual and metaphysical knowledge, because nature is not solely natural. Nature also has a supernatural aspect. The two orders are related through vertical or metaphysical relationships. The universe is variously described in various religious traditions as an effect, manifestation, symbol, or reflection of the spiritual world. In contrast, the spiritual world is described as the cause, principle, root, or archetype of the universe (Faqih, 2013).

Fourth, In the Quran, nature is said to contain traces of God. Natural phenomena, in the macrocosm world and in human souls, are called the Verse of God. While the verses of the Quran are also referred to as verses of God. Therefore, nature is comparable to the verses of the Quran. He conveys to man the metaphysical and spiritual message of the Transcendent.

A number of studies have confirmed that Islamic education does play a strategic role in character building, but the approach relies heavily on normative value instilling and an integrated curriculum, not on the engineering of learning models that make science and nature the main medium for moral internalization (Alvi et al., 2024). The literature on the integration of science and religion in education shows that the combination of science with religious values can result in more meaningful learning, foster spiritual awareness, and strengthen students' moral attitudes (Ningsih et al., 2022). However, these researches are generally at the school or madrasah level, or at the general conceptual level, have not specifically developed the PAI model in public universities that utilize the activity of "reading" *kauniyah* verses (natural phenomena and science) as an explicit strategy for the formation of academic character and integrity (Asman et al., 2025).

The novelty of the study development of a PAI learning desain at PTU that consciously integrates faith, knowledge, and morals by making science the basis for student character formation. This model not only teaches religious and scientific material in parallel, but positions scientific activities—studying nature, technology, and scientific findings—as a means of *tadabbur* directed at fostering honesty, scientific trust, responsibility, and spiritual awareness (Fitriyawany

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et al., 2022). This approach is in line with the findings of international studies that the integration of values in science learning can strengthen character, such as honesty, discipline, and caring, while reducing the tendency for deviant behavior in academic contexts (Alvi et al., 2024).

Based on this gap, the main objective of this research is to design science-based PAI learning that is relevant to the demands of the times and specifically designed to shape the character of students in public universities. The derivative objectives that can be narrated include: first, critically analyzing moral-ethical problems in the university environment and the limitations of PAI practices that are still cognitively dominant; second, to formulate a theological-conceptual foundation for the integration of faith-science-morals by relying on the verses of the Qur'an and the findings of cutting-edge research on the integration of science-religion; third, designing a PAI learning model that uses scientific activities and nature reading as a medium for character formation; and fourth, test or describe the potential effectiveness of the model in strengthening morals and reducing dishonest behavior academically.[9] Thus, this study is expected to contribute not only to the enrichment of the theory of integration of science and religion, but also to the practice of PAI learning in PTU that is more responsive to contemporary moral crises (Ilmi et al., 2023; Tobroni & Lubis, n.d.).

METHOD

This research is included in qualitative research (Aspers & Corte, 2021; Cooper & White, 2012; Flick, 2018; Hannes et al., 2022) with a literature review (*Library Research).* There are several research sources used, both primary sources, secondary sources, and tertiary sources. Primary sources are related to the first or primary source in this study that is obtained directly based on the source, observed and recorded for the first time(*Handbook of Qualitative Research*, 1994; Hennink et al., 2020). Among these primary sources are verses of the Quran, hadiths, and policies from the Ministry of Education and Culture, Research, Technology and Higher Education and the Ministry of Education related to the implementation of Islamic religious education courses at universities such as the National Education System Law No. 20 of 2003 and Decree Number 43 of 2006 concerning learning signs for personality development courses.

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Secondary sources are supporting sources from primary sources consisting of scientific references related to research, such as books, journals, research results, theses, theses, dissertations, and opinions that intersect while at the same time leading researchers to the meaning of the data needed in this research. Meanwhile, tertiary sources are complementary sources to primary and tertiary sources, such as Indonesian dictionaries, term dictionaries, and others.

The data collection technique uses documentation, namely by searching for data about things or variables in the form of records, transcripts, books, newspapers, magazines and so on. The document can be used as a source for researchers to answer the research questions asked.

To make it easier to understand the data obtained from the source, and so that the data is well structured, neat, and systematic, data processing through several stages is very urgent and significant (Ishtiaq, n.d.). The stages of data processing in this study are (Leech & Onwuegbuzie, 2007; Ridder, 2014):

First, editing. This stage is carried out to re-examine the data that has been obtained by the researcher, especially its completeness, clarity of meaning, suitability and relevance to other data groups with the aim of whether the data is sufficient to solve the problem being studied and to reduce errors and shortcomings of data in the research, as well as to improve the quality of the data in this study. *Second, classifying*. The data obtained from the results of the literature study by the researcher will be classified based on the source. This is to emphasize the priority level of the data that has been obtained. *Third, concluding.* The last stage of data processing here is the conclusion of research materials in the form of data that has been obtained with the intention of making it easier to describe it in the form of research. Meanwhile, the data analysis includes document analysis presented in descriptive-qualitative form.

RESULT AND DISCUSSION

Science and Learning of Islamic Religious Education

Linguistically, the word science comes from the Latin word *scientia* which means "I know". In English, the word science comes from the word *science* which means "knowledge". Meanwhile, in *Webster's New Collegiate Dictionary*, it is explained that science is "knowledge acquired

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through learning and proof" or "knowledge that encompasses a general truth of the laws of nature that occur, which is obtained and proven by scientific methods".

In the Qur'an, the word science is mentioned with the word science mentioned 105 times, but when combined with the derivative word it is mentioned with a total of no less than 744 times. To mention in detail, the derivative words are mentioned in the following form and frequency; *'alima (35), ya'lam (215), I'laam (31), yu'lam (1), 'ilm (105), 'alim (18), ma'luum (13), 'alamiin (73), 'alam (3), 'aalam (49), 'aalim/'ulama' (163) 'allam (4)'allama (12), yu'alim (16),'ulima (3), mu'allam (1), ta'allama (2).* From these derivative words arise various meanings, such as: knowing, knowledge, a person who knows, who knows, learns, knows the most, understands, knows everything, knows better, knows very well, clever, teaches, learns, one who receives lessons/is taught, learns; also notions such as signs ('nature), addresses, boundary signs, warning signs, all natural events, everything that exists and everything that can be known (Handayani, 2015).

According to the term, science is a system of knowledge of the universe through the collection of data carried out by observation and experimentation. Meanwhile, according to Powler, science is a science that deals with systematic natural and material phenomena that are arranged in an orderly, general manner in the form of a collection of the results of observations and experiments. James Conant defines science as a series of conceptual concepts and schemes that relate to each other. The concept was discovered from a long process of experimentation and careful observation (observation).

Learning science is the same as studying natural phenomena. For this reason, direct observation is needed. If this limited human sense is not able to reach the phenomenon, then tools are needed to help observe it, such as microscopes, telescopes, ampere mater, and others. This connection is called indirect *observation.* From this activity came the awareness of the scale of the magnitude unknown in daily life, such as the size of the universe that is very large compared to the size of the very small electrons (Handayani, 2015). This is what the author thinks will foster faith in God in humans.

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There are three approaches that can be used in science learning (Kunci, 2013), namely:

First, the approach emphasizes more on the facts of science. Science learning that uses a factual approach mainly aims to introduce students to various facts in science. At the end of the learning process, students are only expected to acquire information about the things that have been taught, for example: A hydrogen atom has one electron, Mercury is the closest planet to the sun, Snakes are creeping animals, and Water freezes at 0.0 C. The most efficient methods for factual learning are reading, reciting, demonstration, drilling, and testing. While these factual learnings are often interesting, they do not reflect a true picture of the essence of science. Facts are states the product of science. Students in general are not able to remember facts for a long period of time. Factual learning tends to encourage students to view that science or Science is just a collection of information. Even if the process of how the facts are obtained is not presented, then the facts that are being taught will not be fully understood by students. So, factual learning about science will not give students a true picture of the essence of science.

Second, the other approach places more emphasis on science concepts. A concept is an idea that binds several facts. A concept states the connection between several facts. There are several examples of science concepts. For example: All matter is composed of particles, All living things are influenced by their environment, Matter changes its state by absorbing or releasing energy, Celestial bodies move in a predictable trajectory. The acquisition of scientific concepts usually requires activities with real objects, exploration, fact-finding and manipulation of ideas. In addition, it requires more than just memory. The conceptual approach provides a better picture of the essence of science than the factual approach discussed earlier. Furthermore, the conceptual approach encourages students to organize facts into a model or explanation of the nature of the universe. The two approaches that have been discussed, namely the factual approach and the conceptual approach in science learning, emphasize science products. Both approaches do not involve the process or the way in which science products are formulated.

Third, an approach that emphasizes more on the science process, namely an approach in science learning that involves processes. This approach is based on the scientific steps that

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scientists take when they conduct scientific investigations. Science process skills can be grouped into basic science process skills which include: observing/observing, classifying, communicating, measuring, predicting, and making inferences. Advanced science process skills, including: identifying variables, formulating operational definitions of variables, proposing hypotheses, designing investigations, collecting and processing data, creating data tables, creating graphs, describing relationships between variables, analyzing, conducting investigations, and conducting experiments.

In relation to the learning of Islamic Religious Education, the science process can be used as a learning approach. Islamic religious education according to Harun Nasution, for the university level includes : deepening a sense of religion with a spiritual and intellectual approach. Worship as a student education to beautify the soul, besides being highly knowledgeable, does not feel lost, but is aware that there is still a substance above it that knows and is more powerful than any age. In addition, it also expands knowledge about Islam globally, in aspects of history, culture, law, theology, philosophy, mysticism, and others. deepening a sense of sectarian tolerance and religious tolerance, deepening a sense of dedication to society. From Harun Nasution's thoughts, I think Islamic Religious Education at universities needs to improve itself, because lest what we have been providing turns out to be not in accordance with what we expect.

The science process skills approach is very relevant as a learning model for Islamic Religious Education (PAI) in higher education because it can answer the demands of developing scientific literacy and 21st century skills for prospective Muslim scholars. With this approach, PAI does not stop at the transfer of dogma, but invites students to observe reality, formulate problems, test hypotheses, and reflect on Islamic values in a critical and transformative manner.

Harun Nasution views that Islamic education, especially in higher education, must integrate spiritual and intellectual approaches in a balanced manner. The main goal is to deepen the sense of religion (piety and transcendental awareness) as well as to hone the power of critical reasoning so that Muslims are able to respond to the development of the times rationally without losing the spiritual dimension.

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Within that framework, worship is understood not only as a ritual obligation, but also as an "education of the soul" that fosters intellectual humility: the highly knowledgeable student remains aware of the limitations of reason and submits to Allah as the All-Knowing Substance. In addition, he emphasized the need to expand the global understanding of Islam to include history, culture, law, theology, philosophy, and mysticism, so that religion is not reduced to narrow formalistic fiqh.

Various studies on Harun Nasution's thought show that for the level of higher education, he formulated several main orientations of Islamic education (Dinata, 2021). First, strengthening the spiritual-intellectual approach, which is to make religious courses a meeting space between dhikr and thought, between the *tadabbur* of revelation and the critical study of social reality. Second, the habituation of worship as a medium for personality formation: prayer, fasting, and other worship are contextualized with the issues of academic honesty, research ethics, and social responsibility of Muslim scientists.

Third, the expansion of Islamic knowledge across disciplines, so that students are familiar with the development of classical and modern Islamic thought, conflicts and sectarian dialogues, as well as the relationship between Islam and contemporary science and civilization. Fourth, the cultivation of an attitude of tolerance within and between religions, which is associated with respect for differences of opinion (*ikhtilaf*), sects, and global Islamic traditions. Fifth, the establishment of social responsibility and dedication to the community, so that graduates of Islamic universities are not isolated from the problems of poverty, injustice, environmental damage, and other humanitarian problems in their environment.

In the educational literature, science process skills (SPS) include the skills of observing, classifying, measuring, interpreting data, formulating hypotheses, designing and conducting simple experiments, and communicating findings. Recent research has shown that mastery of SPS is positively correlated with academic achievement, scientific literacy, and higher-level thinking skills in college. In the PAI student environment itself, the strengthening of scientific literacy and

SPS can be improved through a learning design that trains students to process data and analyze phenomena systematically.

If transposed into PAI learning, the science process approach can be operationalized, for example: students observe socio-religious phenomena on campus or society (e.g. tolerance practices, religious conflicts, unethical work culture), then collect data, analyze it with the concepts of morality, *fiqh*, and theology, and then formulate argumentative religious recommendations. This model is in line with the idea of reforming Islamic education methodology which requires students to actively process knowledge, not just receive one-way lectures. Thus, PAI becomes a vehicle for the formation of a scientific attitude—critical, objective, open to evidence—which is escorted by the commitment of monotheism and noble morals as desired by Harun Nasution.

The implementation of the scientific approach in PAI has been studied, among others, through a learning model that organizes learning steps into observing, questioning, exploring, associating, and communicating. Research shows that this approach allows the integration of Qur'an-Hadith, Moral Faith, Fiqh, and Islamic Cultural History materials with students' concrete experiences, so that teachings are no longer perceived abstract and separate from reality. On the other hand, the bibliometric study of SPS confirms that international research trends are moving towards strengthening the scientific process in all subjects, which opens up great opportunities for the reconstruction of PAI methodologies in universities.

However, research on scientific literacy and SPS of PAI students shows that these abilities are still uneven; Some students have low literacy and process skills, so they require special pedagogical intervention. This condition reinforces the suspicion that the PAI format in many universities still tends to be normative-doctrinal and has not completely made students active subjects who research, test, and reflect on religious messages in the current context. Therefore, Harun Nasution's thinking can be a critical foundation for "self-improvement": PAI needs to review curriculum, methods, and evaluations to be in line with the ideal of developing rationality, spirituality, and social commitment rooted in Islamic traditions but responsive to the development of modern science.

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The scientific approach is very important to develop students' intellect, because they are required to think rationally. Thus, they will accept Islam not only as a doctrine, but because they are aware of it through their thought process. For example, regarding the material of worship, if it is approached with science, the awareness of worship will be strengthened. Why do we pray five times a day?, why do we fast?, what do we give alms?, and so on. That way, the worship or good that they do is no longer because of coercion or because of fear of going to hell, but because of the awareness of the importance of that goodness. In other words, this approach will lead to good morals.

The Implications of Science in Character Building

In science, students conduct experiments and try to practice improving their ability to think logically and be able to connect the knowledge they have previously had with the scientific knowledge they have discovered during direct practice. From their experience of conducting experiments to solve problems or finding answers to questions that make them curious, students have been directly trained with several scientific attitudes or *scientific applications attitued*, such as being persistent, diligent, and not easily discouraged when facing various difficulties, even these difficulties make them more tenacious to continue to try and try until they succeed (., 2013).

In their efforts to solve or answer these problems, students will definitely open themselves to input, suggestions, and criticism from friends and lecturers. From this process, students actually practice with other scientific attitudes such as logical and sequential thinking (systematic), creative, innovative, rich in inspiration, learning to be sportsmanlike by not hiding a failure. In other words, students also practice having a positive mentality.

Thus, in short, from the experimental activities carried out, students learn a lot and practice having attitudes like a true scientist. Students who learn more, their scientific *knowledge* insights, broader, scientific process skills are sharpened, and their scientific attitude (*scientific attitude*) becomes better.

In the Islamic view, science is continuous with religion and God. This relationship implies a sacred aspect to the pursuit of scientific knowledge by Muslims. This is because according to the

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Qur'an, nature is a collection of signs of the existence of the Oneness and Almightiness of Allah SWT. Normatively, since the beginning of the revelation of the Qur'an through surah al-Alaq 1-5, it has been illustrated that the construction of knowledge in Islam is built on the values of monotheism, and the Muslim community is guided to worship and behave to Allah as the implementation of monotheism.

In Islam, science is understood as an inseparable part of religion and God, because natural reality is seen as a collection of signs (*ayat* that lead humans to the recognition and recognition of the oneness and omnipotence of Allah SWT. This connection makes scientific activity not only a rational effort to find a causal explanation, but also an intellectual worship that has a dimension of purity (sacred) and an orientation of monotheism.

The Qur'an uses the term *ayat* to refer to at once the texts of revelation and the phenomena of the universe, so that the scriptures and nature are both understood as "the two books of God" that must be read at the same time. In this perspective, various cosmic phenomena—the alternation of night and day, the creation of heaven and earth, the dynamics of life and history—are positioned as signs of God's existence, oneness, and wisdom for thinking people.

A number of theological studies assert that the unity of sources between revelation and nature (both of God's creations) implies the unity of truth: true scientific knowledge cannot be inherently contrary to monotheism, since both point to the same Divine reality. Therefore, the increase in scientific knowledge is seen as an extension of the horizon of *tadabbur* to *kauniyah* verses, not as a threat to faith.

When science is understood as the systematic study of God's verses in nature, then research, experimentation, and technological development acquire religious significance as part of servitude to Him. Modern research on the relationship between religion and science in Islam shows that the classical Muslim scientific tradition grew out of the belief that exposing the laws of nature meant reading the *sunnatullah*, so that scientists are seen as the bearers of the mandate of knowledge, not just neutral technocrats.

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This dimension of holiness does not mean denying objectivity or scientific methods, but rather placing it within the ethical-spiritual horizon: knowledge must be used for the benefit, justice, and preservation of creation, since it is a consequence of the recognition of Allah as Rabb al-'ālamīn. Thus, Islamic epistemology rejects the sharp dichotomy between "religious science" and "world science", and replaces it with a monotheistic hierarchy and orientation that unites diverse disciplines within the framework of devotion to God.

Normatively, the foundation of the sacred relationship between science, religion, and God has been sketched since the first revelation, namely surah al-'Alaq verses 1–5. Contemporary studies show that these verses are not merely a reading command in the literal sense, but form the basic structure of science in Islam: a balance between spiritual awareness, rationality, ethics, and the orientation of social transformation.

Research on the epistemology of science in surah al-'Alaq found that it contains the educational value of skills (such as reading, reasoning, and writing), the value of divine education (the recognition that all knowledge comes from Allah), and the value of sense education (moral sensitivity and empathy). The word "*iqra*'" that is repeated twice is understood as an invitation to continuous learning, not only reading written texts, but also reading nature, social situations, and history as a field of contemplation and learning.

In the discourse of Islamic epistemology, monotheism is positioned as the first principle that binds the entire building of knowledge. Thinkers such as Ismail Raji al-Faruqi affirm that monotheism is not only a theological doctrine, but a paradigm that unites the diversity of reality and disciplines into a coherent unity, because they all reflect the oneness of Allah. Recent studies on monotheism as the basis for the development of science emphasize that creed becomes a normative standard: knowledge that is in harmony with monotheism is accepted and utilized, while that which is contrary to these basic values is criticized or reconstructed (Hassan et al., 2010).

From a philosophical perspective, monotheism has both ontological dimensions (viewing reality as a creation dependent on God) and epistemological (determining the source, method, and purpose of knowledge). The practical implication is that the Muslim community is led to develop

a science that integrates revelation, reason, and empirical experience, with the final orientation in the form of servitude and noble morals as manifestations of monotheism.

Because the basis of knowledge in Islam is monotheism, the process of seeking, developing, and applying knowledge cannot be separated from worship and morals. Surah al-'Alaq affirms that Allah is "your Lord who creates" and "Who teaches man through the medium of light", so that every intellectual effort should ideally be accompanied by an awareness of *rububiyyah* (the nurturing of Allah) and manners towards the source of knowledge.

Research on the implementation of al-'Alaq values in learning concludes that these verses inspire an educational model that encourages active learning, intellectual discipline, a humble attitude before the truth, and a commitment to directing the results of knowledge for the benefit of humans. Thus, the Muslim community is not only commanded to worship ritually, but also to be moral and knowledgeable responsibly, so that the integration of science, religion, and God is manifested in the overall practice of life as beings who read, think, and worship in unison.

In addition, the study and development of science and technology is in line with human values and always maintains human dignity and dignity. Engineering and the advancement of science and technology must not exceed the dignity and dignity of human beings. The point is that the progress of science and technology must always be on the path of the benefit of the human race, not the other way around, which can damage and destroy humans. For this reason, human ethics must always be maintained and become the main barometer by every scientist when carrying out various engineering and development of science and technology.

Not only that, the study and development of science and technology must pay attention to the preservation of nature and all its habitats. Engineering and advances in science and technology are allowed to utilize nature and its habitats while still paying attention to ethics (morals towards nature) and must not be exploited arbitrarily so as to damage and destroy nature and its habitat. There are about 750 verses of the Qur'an that speak of the material realm and its phenomena, and which command man to know and make use of this realm.

Conclusion

The moral problems that afflict the Indonesian nation today need a lot of attention, including from education. The reason is because the essence of education is not only *the transfer of knowledge*, but more than that, it is to form morals The formation of morals is not only the responsibility of primary and secondary education, but also the University. As one of the personality development courses, Islamic Religious Education (PAI) has a significant role in the formation of student character. For this reason, the quality needs to be improved in order to be able to contribute to character formation. One way is to use science as an approach to spreading Islamic Religious Education. This is because in science there are several aspects that can be used to build morals or character, such as observing/observing, classifying, communicating, measuring, predicting, and making inferences, analyzing, conducting investigations, and conducting experiments. From this process, students practice with scientific attitudes such as logical and sequential thinking (systematic), creative, innovative, rich in inspiration, and sportsmanship.

REFERENCES

. M. (2013). MEMBANGUN KARAKTER MELALUI PEMBELAJARAN SAINS. *Jurnal Pendidikan Karakter*, *4*(2). https://doi.org/10.21831/jpk.v2i2.1436

Alvi, M. R., Yusron, M., & Raza, H. (2024). Islamic Education's Role in Building Character, Teaching Moral Values to Students, and Becoming the Pillar of a Quality Society. *INSANI: Jurnal Ilmu Agama dan Pendidikan*, *2*(2), 153–167. https://doi.org/10.70424/insani.v2i2.153-167

Asman, A., Muliani, M., & Amin, A. (2025). Integration of Islamic values and science in integrated Islamic boarding school-based Islamic schools. *Edusoshum : Journal of Islamic Education and Social Humanities*, *5*(3), 553–564. https://doi.org/10.52366/edusoshum.v5i3.149

Aspers, P., & Corte, U. (2021). What is Qualitative in Research. *Qualitative Sociology*, *44*. https://doi.org/10.1007/s11133-021-09497-w

Attas, M. N. al-. (1999). *The concept of education in Islam: A framework for an Islamic philosophy of education* (3. impression). ISTAC.

Azra, H. (2018). Islamic Education in Indonesia. In *Handbook of Islamic Education* (pp. 763–780). Springer, Cham. https://doi.org/10.1007/978-3-319-64683-1_32

Chanifah, N. (2020a). INNOVATION OF INTEGRATIVE-INTERCONNECTIVE ISLAMIC EDUCATION BASED ON DIRECT EXPERIENCE IN UNIVERSITAS BRAWIJAYA

MALANG. *International Journal of Educational Management and Innovation*, *1*(3), 251. https://doi.org/10.12928/ijemi.v1i3.2593

Chanifah, N. (2020b). *Model Pembelajaran Pendidikan Agama Islam Berbasis Direct Experience-Multidisciplinary*. Pena Persada.

Chanifah, N., Hanafi, Y., Mahfud, C., & Samsudin, A. (2021). Designing a spirituality-based Islamic education framework for young muslim generations: A case study from two Indonesian universities. *Higher Education Pedagogies*, *6*(1), 195–211. https://doi.org/10.1080/23752696.2021.1960879

Chanifah, N., & Samsudin, A. (2019). *Pendidikan Karakter Islami: Karakter Ulul Albab di Dalam Al-Qur'an*. Pena Persada.

Cooper, K., & White, R. E. (Eds.). (2012). *Qualitative Research in the Post-Modern Era*. Springer Netherlands. https://doi.org/10.1007/978-94-007-2339-9

Deddy, D. R., Husnawadi, H., & Waliyadin, W. (2025). Plagiarism and Academic Integrity in Indonesian Islamic Higher Education: Factors and Policy Implications. *EDUKASI: Jurnal Penelitian Pendidikan Agama Dan Keagamaan*, *23*(2), 322–339. https://doi.org/10.32729/edukasi.v23i2.2154

Dinata, S. (2021). Pemikiran Harun Nasution (Religius-Rasional) Tentang Pendidikan Islam. *An-Nida'*, *45*(2), 151. https://doi.org/10.24014/an-nida.v45i2.16535

Fitriyawany, F., Lailatussaadah, L., & Meutiawati, I. (2022). Integrating Islamic Values into Science Learning in Indonesian Islamic Higher Education: Expectation and Implementation. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, *7*(1), 119–132. https://doi.org/10.24042/tadris.v7i1.10802

Flick, U. (2018). *An Introduction to Qualitative Research*. SAGE.

Handayani, N. N. L. (2015). *MEMBANGUN MASYARAKAT MELEK SAINS BERKARAKTER BANGSA MELALUI PEMBELAJARAN*.

Handbook of qualitative research (with Internet Archive). (1994). Thousand Oaks Sage Publications. http://archive.org/details/handbookofqualit0000unse_c9a5

Hannes, K., Hendricks, L., Brgles, M., Dierckx, C., Gemignani, M., Huhnen, M., Vrebos, H., Swift, A., & Van Goidsenhoven, L. (2022). *The SAGE Handbook of Qualitative Research Design: Being Creative with Resources in Qualitative Research* (pp. 290–306). https://doi.org/10.4135/9781529770278.n19

Hassan, A., Suhid, A., Abiddin, N. Z., Ismail, H., & Hussin, H. (2010). The role of Islamic philosophy of education in aspiring holistic learning. *Procedia - Social and Behavioral Sciences*, *5*, 2113–2118. https://doi.org/10.1016/j.sbspro.2010.07.423

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods* (Second edition). SAGE.

Ilmi, I., Wanayati, S., Hasanah, A., & Arifin, B. S. (2023). Islamic Educational Values as the Core of Character Education. *EDUTEC : Journal of Education And Technology*, *7*(2), 406–471. https://doi.org/10.29062/edu.v7i2.633

Ishtiaq, M. (n.d.). *Creswell, J. W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA: Sage*. Retrieved October 14, 2024, from https://www.academia.edu/57201640/Creswell_J_W_2014_Research_Design_Qualitative_Quantitative_and_Mixed_Methods_Approaches_4th_ed_Thousand_Oaks_CA_Sage

K, M., Rahim, A., Ismawati, I., & Mutmainna, F. (2024). Islamic Religious Education in Student Character Development. *Al-Hayat: Journal of Islamic Education*, *8*(1), 236–247. https://doi.org/10.35723/ajie.v8i1.475

Kunci, K. (2013). CHARACTER BUILDING THROUGH SCIENCE TEACHING AND LEARNING. *Jurnal Pendidikan Karakter*.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly*, *22*(4), 557–584. https://doi.org/10.1037/1045-3830.22.4.557

Ningsih, T., Purnomo, S., Muflihah, M., & Wijayanti, D. (2022). Integration of Science and Religion in Value Education. *IJORER : International Journal of Recent Educational Research*, *3*(5), 569–583. https://doi.org/10.46245/ijorer.v3i5.248

Oktaviyani, D., Sunawan, S., & Khairkhah, K. (2022). The Prediction of Religiosity on Students' Academic Dishonesty. *Jurnal Pendidikan Agama Islam*, *19*(1), 81–92. https://doi.org/10.14421/jpai.2022.191-07

Ridder, H.-G. (2014). [Review of *Review of Qualitative Data Analysis. A Methods Sourcebook 3 rd Edition*, by M. B. Miles, A. M. Huberman, & J. Salda�a]. *Zeitschrift F�r Personalforschung / German Journal of Research in Human Resource Management*, *28*(4), 485–487.

Tobroni, N. C., & Lubis, S. A. (n.d.). Religious Character Teaching and Learning Model to Prevent Radicalism in Universities. *Systematic Reviews in Pharmacy*, *11*, 102–111.