



# Islamic Ethical Literacy in the Use of Artificial Intelligence (AI) for Writing Scientific Articles among First Semester PAI Students at University

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Article Info	Abstract
<p>Received: 2026-02-06 Revised: 2026-03-09 Accepted: 2026-03-10</p> <p><b>Keywords:</b> Artificial Intelligence, Islamic ethics, ethical literacy, academic writing, phenomenology, Islamic education</p> <p><b>DOI:</b> 10.24256/ideas.v14i1.9891</p> <p><b>Corresponding Author:</b> Willi Rahim Marpaung <a href="mailto:willi0302192067@uinsu.ac.id">willi0302192067@uinsu.ac.id</a> Master Program in Islamic Religious Education Faculty of Educational Sciences and Teacher Training State Islamic University of North Sumatra Medan</p>	<p><i>The rapid development of Artificial Intelligence (AI) has significantly influenced academic practices in higher education, including the process of writing scientific articles. While AI offers efficiency and accessibility in obtaining academic information, it also raises ethical concerns, particularly regarding academic integrity and responsible use of technology. This study aims to explore Islamic ethical literacy in the use of AI for writing scientific articles among first-semester students of the Islamic Religious Education (PAI) program at the Faculty of Tarbiyah and Teacher Training (FITK), Universitas Islam Negeri Sumatera Utara (UINSU). The research employs a qualitative phenomenological approach to understand students' lived experiences, perceptions, and ethical considerations in utilizing AI during academic writing. Data were collected through in-depth interviews, observation, and documentation. The findings reveal that students generally recognize AI as a supportive learning tool; however, their level of Islamic ethical literacy varies. Some students use AI as a means of academic assistance, such as generating ideas and clarifying concepts, while others tend to rely on AI excessively without adequate critical reflection. The study also identifies several Islamic ethical values guiding AI usage, including honesty (ʃidq), trustworthiness (amanah), responsibility (mas'uliyah), and the pursuit of public benefit (maʃlahah). Factors influencing ethical literacy include religious education background, academic culture, lecturer guidance, and digital environment. The research concludes that strengthening Islamic ethical literacy is essential to ensure that AI supports intellectual development without compromising academic integrity or moral character. Integrating Islamic ethical principles into digital literacy education is therefore recommended for Islamic higher education institutions.</i></p>

## 1. Introduction

The rapid development of digital technology in the twenty-first century has significantly transformed various aspects of human life, including education. One of the most influential technological innovations in recent years is Artificial Intelligence (AI). AI refers to computer systems designed to perform tasks that normally require human intelligence, such as language processing, data analysis, problem solving, and text generation (Russell & Norvig, 2021). In higher education, AI technologies are increasingly integrated into academic activities, including research, learning management systems, and academic writing.

The integration of Artificial Intelligence into higher education offers numerous advantages for students and educators. AI can support learning processes by providing instant access to information, assisting with academic writing, summarizing literature, and offering conceptual explanations. AI-based tools have become particularly useful for students when completing academic assignments such as essays, reports, and scientific articles. According to Holmes, Bialik, and Fadel (2019), AI technologies in education can enhance learning efficiency, personalize learning experiences, and support students in accessing a wide range of academic resources.

The emergence of generative AI systems has further accelerated these changes. Tools capable of generating text, analyzing research topics, and organizing academic arguments have become widely used among university students. Many students utilize AI tools to help formulate research questions, structure academic papers, and translate scholarly sources. In some cases, AI functions as a form of cognitive support that assists students in navigating complex academic materials and expanding their understanding of theoretical concepts (Zawacki-Richter et al., 2019).

Despite these benefits, the widespread use of AI in academic environments also raises important ethical concerns. The convenience offered by AI may encourage students to rely excessively on automated systems rather than engaging in critical thinking processes. Overreliance on AI may weaken students' analytical abilities and reduce the authenticity of academic work. Furthermore, the use of AI-generated text without appropriate attribution can blur the boundary between legitimate academic assistance and academic misconduct (Selwyn, 2020).

The ethical challenges associated with AI are not limited to issues of plagiarism or academic integrity. AI also raises broader concerns related to responsibility, accountability, and the authenticity of knowledge production. Ferguson (2021) argues that while AI has the potential to support education, its use must be accompanied by ethical awareness to prevent misuse and intellectual dependency. Without ethical guidance, AI may encourage pragmatic learning attitudes that prioritize results over meaningful learning processes.

In the context of Islamic education, ethical considerations in the use of technology hold a particularly important position. Islam emphasizes that knowledge acquisition is not only an intellectual endeavor but also a moral and spiritual responsibility. The pursuit of knowledge must be accompanied by ethical values such as honesty (ṣīdq), trustworthiness (amanah), justice ('adl), and responsibility (mas'uliyah). These values guide human behavior in all aspects of life, including the use of modern technologies (Rahman, 2017).

Islamic teachings encourage the pursuit of knowledge and technological innovation for the benefit of humanity. Historically, Islamic civilization has contributed significantly to scientific and technological advancements. However, Islam also emphasizes that knowledge and technology must be used responsibly and ethically. Technological tools are considered morally neutral; their ethical value depends on how they are used and the intentions behind their use (Al-Ghazali, 2011).

In academic environments, ethical awareness becomes particularly important in maintaining the integrity of knowledge production. Academic integrity requires students to engage actively in intellectual inquiry, critically evaluate information, and produce original academic work. When students rely excessively on AI without critical engagement, the learning process may shift from intellectual exploration to the mere acquisition of instant results (Carr, 2020).

This issue becomes even more significant in Islamic higher education institutions where students are expected to embody both intellectual competence and moral character. Students enrolled in Islamic Religious Education (PAI) programs are not only trained to master educational theories but also to become future educators who transmit Islamic values to society. As prospective teachers, PAI students are expected to demonstrate ethical responsibility in their academic practices, including their use of digital technologies.

In this context, the concept of Islamic ethical literacy becomes particularly relevant. Ethical literacy refers to the ability to understand, interpret, and apply ethical principles in real-life decision making. Islamic ethical literacy specifically involves the internalization of Islamic moral values and their application in everyday behavior, including academic activities. Students who possess strong ethical literacy are more likely to evaluate technological tools critically and use them responsibly.

Recent studies on AI in education have primarily focused on technological efficiency, learning outcomes, and digital literacy. While these studies provide valuable insights into the educational potential of AI, relatively few studies examine the ethical implications of AI usage from a religious or moral perspective. Research exploring the intersection between Artificial Intelligence and Islamic ethical values remains limited.

Moreover, existing studies often rely on quantitative approaches that measure attitudes or technology adoption. Such approaches may overlook the subjective experiences and moral reflections that shape students' interactions with technology. A qualitative phenomenological approach allows researchers to explore how students interpret their experiences with AI and how ethical values influence their decisions when using AI in academic writing.

Therefore, this study seeks to explore Islamic ethical literacy in the use of Artificial Intelligence for writing scientific articles among first-semester students of the Islamic Religious Education program at the Faculty of Tarbiyah and Teacher Training (FITK), Universitas Islam Negeri Sumatera Utara (UINSU). By examining students' lived experiences, perceptions, and ethical reflections, this study aims to provide a deeper understanding of how Islamic ethical values influence students' interactions with AI technology in academic contexts.

Understanding this relationship is crucial for developing educational strategies that integrate technological innovation with ethical responsibility. Strengthening Islamic ethical literacy may help ensure that AI technology functions as a supportive learning tool rather than a substitute for intellectual effort. Ultimately, such integration is essential for achieving the broader goals of Islamic education, which emphasize the harmonious development of knowledge, character, and moral responsibility.

## **2. Method**

This study employed a qualitative research design using a phenomenological approach. Phenomenology aims to explore and understand individuals' lived experiences and the meanings they assign to those experiences. In this research, the phenomenological approach was used to examine how students perceive and interpret the ethical dimensions of using Artificial Intelligence in academic writing.

The research was conducted at the Faculty of Tarbiyah and Teacher Training (FITK), Universitas Islam Negeri Sumatera Utara (UINSU), focusing on first-semester students of the Islamic Religious Education (PAI) program. These students were selected as research participants because they represent early-stage university learners who are beginning to engage with academic writing and digital technologies.

Participants were selected using purposive sampling. The criteria for selection included students who had experience using AI tools in academic assignments, particularly in writing scientific papers or essays. This approach allowed the researcher to obtain rich and relevant data regarding students' experiences with AI.

Data collection techniques included:

1. **In-depth interviews**, conducted to explore students' perceptions, motivations, and ethical considerations in using AI.
2. **Observation**, used to understand how students interact with AI tools during academic tasks.
3. **Documentation**, including students' written assignments and relevant academic materials.

Data analysis followed the interactive model proposed by Miles and Huberman, consisting of three stages: data reduction, data display, and conclusion drawing. Through this process, recurring themes and patterns related to Islamic ethical literacy in AI usage were identified and interpreted.

To ensure the validity and credibility of the data, the study applied triangulation techniques, including source triangulation and method triangulation. This process involved comparing information obtained from different participants and data collection methods.

### 3. Result

The findings of this study are organized into four major themes derived from the phenomenological analysis of interview data. These themes describe students' understanding of Artificial Intelligence (AI), patterns of AI usage in academic writing, Islamic ethical values guiding AI usage, and factors influencing Islamic ethical literacy among first semester PAI students at FITK UINSU.

#### *1. Students' Understanding of Artificial Intelligence in Academic Writing*

The interview data reveal that most students are familiar with AI technologies and recognize their usefulness in academic activities, particularly in writing scientific articles. Students generally perceive AI as a tool that helps them access information more quickly and understand academic concepts more easily.

One participant explained that AI functions as a supportive learning assistant that helps clarify difficult material.

**R1:** "AI helps me understand topics that I find difficult in lectures. Sometimes when I read a journal article and do not fully understand it, I ask AI to explain the concept in simpler language."

Another student emphasized that AI is useful for generating ideas when writing academic papers.

**R2:** “When I start writing a paper, sometimes I don’t know how to begin. AI helps me generate initial ideas or outlines, and then I develop them with my own understanding.”

However, some students acknowledged that AI might create dependency if it is used without careful reflection.

**R3:** “AI is helpful, but if we depend on it too much, we may stop thinking critically. Sometimes students just copy the answers without really understanding the material.”

These responses indicate that students generally view AI as a beneficial academic tool, although they also recognize the potential risks associated with excessive reliance on technology.

## *2. Patterns of AI Usage in Academic Writing*

The study identified two main patterns of AI usage among students: **assistive usage** and **substitutive usage**.

### *Assistive Usage*

Some students reported using AI as a tool to support their learning and writing process rather than replacing their intellectual effort. These students typically use AI to explore ideas, clarify concepts, and improve their writing structure.

One participant explained how AI helps with organizing academic arguments.

**R4:** “I usually use AI to help organize my ideas when writing a paper. After that, I rewrite the explanation in my own words so that it reflects my understanding.”

Another participant described AI as a reference guide rather than a source to copy directly.

**R5:** “AI helps me find the direction of my discussion. But I still search for journal references and write the explanation myself.”

Students who used AI in this way demonstrated greater awareness of academic responsibility and critical thinking.

### *Substitutive Usage*

In contrast, some students admitted that AI is sometimes used as a shortcut for completing assignments quickly. One participant acknowledged that students sometimes rely too heavily on AI-generated responses.

**R6:** “Sometimes when the deadline is close, I use AI to generate the answer quickly. I may only change a few words before submitting it.”

Another participant admitted that some students use AI without fully understanding the content.

**R7:** “Some students copy the AI answers directly. They don’t always check whether the explanation is accurate or not.”

These responses suggest that while AI can enhance learning, it may also encourage pragmatic learning behavior that prioritizes speed over understanding.

### *3. Islamic Ethical Values Guiding AI Usage*

Students identified several Islamic ethical values that influence how they use AI in academic contexts. The most frequently mentioned values include **honesty (ṣidq)**, **trustworthiness (amanah)**, **responsibility (mas’uliyah)**, and **benefit (maṣlaḥah)**.

#### *Honesty (Ṣidq)*

Students emphasized that honesty is essential when using AI in academic writing.

**R8:** “In Islam, honesty is very important. Even if we use AI, we should not claim the result as entirely our own work. We must still be honest about how we use it.”

Another student expressed concern about the ethical implications of copying AI-generated content.

**R2:** “If we only copy the answer from AI, it feels like cheating. Islam teaches us to be honest in seeking knowledge.”

### *Trustworthiness (Amanah)*

Participants also described academic tasks as a form of responsibility that must be completed sincerely.

**R3:** “Assignments given by lecturers are a trust for us as students. If we only rely on AI without thinking, we are not fulfilling that trust.”

### *Responsibility (Mas’uliyah)*

Students also recognized the need to verify information generated by AI.

**R5:** “AI sometimes gives wrong information, so we must check it again. As students, we are responsible for the accuracy of what we write.”

### *Public Benefit (Maşlahah)*

Some participants emphasized that technology should be used for positive purposes.

**R9:** “AI should be used to help us learn better, not to avoid learning. If we use it wisely, it can bring benefits to our studies.”

These responses demonstrate that students generally understand the ethical values associated with technology usage from an Islamic perspective.

## *4. Factors Influencing Islamic Ethical Literacy in AI Usage*

The interviews also revealed several factors that influence students’ ethical literacy in using AI.

### *Religious Educational Background*

Students who previously studied in Islamic schools or pesantren reported stronger awareness of ethical considerations.

**R10:** “Because I studied in a pesantren before entering university, I feel that honesty in learning is very important. That background makes me careful when using AI.”

#### *Academic Culture*

The academic environment also influences students' attitudes toward AI.

**R4:** "In some classes, lecturers emphasize academic integrity. When lecturers remind us about plagiarism and ethics, we become more careful in using AI."

#### *Lecturer Guidance*

Students highlighted the importance of guidance from lecturers regarding ethical technology use.

**R1:** "If lecturers explain clearly how we should use AI ethically, students will understand the boundaries."

#### *Digital Culture and Peer Influence*

The broader digital culture also shapes students' behavior.

**R7:** "On social media, many people show how AI can quickly complete assignments. This sometimes influences students to use it without thinking about ethics."

These findings indicate that ethical literacy in AI usage is shaped not only by individual awareness but also by educational, social, and technological environments.

#### **4. Discussion**

The findings of this study highlight the complex relationship between technological innovation and ethical awareness among students in Islamic higher education. Artificial Intelligence has become an increasingly influential tool in academic environments, offering significant benefits in terms of efficiency, accessibility, and knowledge acquisition. However, the ethical implications of AI usage require careful consideration, particularly in educational contexts where intellectual integrity and moral development are central objectives.

The results indicate that students generally perceive AI as a supportive academic tool that facilitates learning and academic writing. Many participants reported using AI to generate ideas, clarify complex concepts, and organize academic arguments. This pattern reflects the growing role of AI as a form of cognitive assistance in modern education. According to Zawacki-Richter et al.

(2019), AI technologies can support students by enhancing access to information and assisting with knowledge management.

However, the findings also reveal significant variation in students' ethical awareness regarding AI usage. Some students demonstrated a reflective understanding of AI as a supportive tool that should complement their intellectual efforts. These students tended to verify AI-generated information, critically evaluate responses, and integrate AI outputs into their own analytical thinking. Such practices indicate a relatively high level of ethical literacy and academic responsibility.

In contrast, other students displayed a more pragmatic approach to AI usage. For these students, AI was often perceived as a shortcut that could simplify academic tasks and reduce the time required to complete assignments. This tendency reflects broader concerns about technological dependency in education. Carr (2020) argues that excessive reliance on digital technologies may weaken deep cognitive engagement and reduce individuals' capacity for critical thinking.

From the perspective of Islamic ethics, the use of technology must always be guided by moral principles. Islamic teachings emphasize that knowledge acquisition is not merely a technical process but also a moral endeavor that requires sincerity, honesty, and responsibility. The ethical values identified in this study—such as honesty (*ṣidq*), trustworthiness (*amanah*), responsibility (*mas'uliyah*), and public benefit (*maṣlaḥah*)—reflect the fundamental moral framework of Islamic ethics.

The principle of honesty is particularly relevant in the context of AI-assisted academic writing. Academic honesty requires students to acknowledge sources, avoid plagiarism, and produce original intellectual contributions. When students present AI-generated content as their own work without proper acknowledgment, they risk violating the ethical principle of honesty. Such practices undermine the integrity of academic knowledge and contradict Islamic teachings that emphasize truthfulness in all aspects of life (Al-Ghazali, 2011).

Similarly, the principle of trustworthiness (*amanah*) highlights the moral responsibility associated with knowledge production. In Islamic thought, knowledge is considered a trust that must be used responsibly and ethically. Students are therefore expected to engage actively in the learning process rather than delegating intellectual responsibility to technological systems. Responsible AI usage requires students to critically evaluate information and ensure that their academic work reflects genuine intellectual effort.

Another important ethical dimension is the concept of *maṣlaḥah*, or the pursuit of public benefit. In Islamic ethical philosophy, actions are considered ethically acceptable when they promote social good and prevent harm. When used responsibly, AI technologies can contribute positively to education by enhancing learning opportunities and improving access to knowledge. However, misuse of AI may lead to intellectual passivity and reduced academic integrity, which ultimately undermines educational objectives.

The study also highlights the role of contextual factors in shaping students' ethical literacy. Religious educational background, academic culture, and lecturer guidance were identified as key influences on students' ethical attitudes. Students who received stronger exposure to Islamic ethical teachings tended to demonstrate greater awareness of moral considerations in their use of technology.

Academic institutions also play a crucial role in fostering ethical awareness among students. Universities must develop clear guidelines regarding the ethical use of AI in academic work. Educational programs should integrate discussions about digital ethics, academic integrity, and responsible technology use into their curricula. According to Selwyn (2020), ethical education is essential in preparing students to navigate the challenges posed by emerging digital technologies.

Lecturers also have an important pedagogical role in guiding students toward ethical AI usage. By encouraging critical reflection and emphasizing intellectual responsibility, educators can help students develop balanced approaches to technology use. Rather than prohibiting AI entirely, educators should promote responsible engagement that supports learning while preserving academic integrity.

Ultimately, the integration of Islamic ethical values with digital literacy education offers a promising framework for addressing the ethical challenges posed by AI technologies. By strengthening Islamic ethical literacy, students can develop the ability to evaluate technological tools critically and use them responsibly. Such an approach aligns with the broader goals of Islamic education, which emphasize the integration of knowledge, morality, and social responsibility.

## **5. Conclusion**

This study explored Islamic ethical literacy in the use of Artificial Intelligence for writing scientific articles among first semester PAI students at FITK UINSU using a phenomenological qualitative approach. The findings indicate that students generally perceive AI as a helpful academic tool; however, their ethical awareness and literacy levels vary. While some students use AI responsibly as a learning aid, others rely on it excessively, potentially undermining academic integrity.

Islamic ethical principles such as honesty, trustworthiness, responsibility, and public benefit serve as important moral guidelines in the use of AI technology. Strengthening these ethical values is crucial for ensuring that AI contributes positively to students' intellectual development and moral character. The study suggests that Islamic higher education institutions should integrate ethical literacy into digital education programs. By doing so, universities can prepare students to navigate technological advancements responsibly while maintaining the ethical foundations of Islamic education.

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