

Arabic-Indonesian Translation Learning in the Era of Artificial Intelligence: Transformation of Methods, Translation Competence, and Academic Ethics

Fadli Syarief¹, Andi Abdul Hamzah², Kamaluddin Abu Nawas³.

¹ Sekolah Tinggi Ilmu Tarbiyah Ismail Umar Sanji Makassar, Indonesia

² Universitas Islam Negeri Alauddin Makassar, Indonesia

³ Universitas Islam Negeri Alauddin Makassar, Indonesia

Email fadlisyarief702@gmail.com.

Abstract

The development of Artificial Intelligence has significantly transformed various educational fields, including Arabic-Indonesian translation learning. The emergence of machine translation, chatbots, and generative AI enables students to produce translations quickly, but it also raises pedagogical and ethical concerns. This article aims to analyze the transformation of Arabic-Indonesian translation learning methods in the era of Artificial Intelligence, identify the translation competencies required by students, and formulate academic ethical principles for the use of AI in translation learning. This study employs library research with a descriptive-analytical and conceptual-critical approach. The data were obtained from literature on translation theory, Arabic language learning, AI in education, machine translation, and academic ethics. The findings indicate that AI does not merely function as a technical translation tool but also transforms translation learning methods from manual translation practices into learning activities based on evaluation, post-editing, and accountability. Translation competence in the AI era should not be limited to linguistic mastery but must also include semantic, cultural, technological, evaluative-critical, and ethical competencies. This article proposes the 5M pedagogical framework reading, analyzing, comparing, editing, and accounting as a conceptual alternative for AI-assisted Arabic-Indonesian translation learning.

Keywords: Artificial Intelligence; translation learning; Arabic-Indonesian translation; translation competence; academic ethics

ARTICLE INFO

Article history:

Received
March 08, 2026
Revised
May 09, 2026
Accepted
June 30, 2026

Published by

Website

ISSN

Copyright



STAI Masjid Syuhada Yogyakarta

<https://journal.stainsykh.ac.id/index.php/Ihtimam/index>

2774-4302

This is an open access article under the CC BY SA license

<https://journal.stainsykh.ac.id/index.php/Ihtimam/index>

@ 2026 by the author (s)

INTRODUCTION

The development of Artificial Intelligence (AI) has transformed the way humans access, process, and produce information. In the context of education, AI is no longer a complementary technology but has become an integral part of the modern learning ecosystem (Holmes et al., 2019; Kasneci et al., 2023). UNESCO (2023) emphasizes that generative AI in education needs to be understood within a human-centered framework, including through data protection, strengthening educator capacity, and responsible policymaking.

One area directly impacted by AI developments is translation. Translation activities, which previously relied heavily on dictionaries, manual grammatical analysis, and the translator's

linguistic experience, are now faced with machine translation, neural machine translation, chatbots, and generative AI (Doherty, 2016; Kenny, 2022). This change impacts not only professional translation practice but also translation learning in higher education, particularly in the context of Arabic language learning for Indonesian students.

In Arabic-Indonesian translation learning, the use of AI presents both opportunities and challenges. On the one hand, AI can help students obtain initial drafts of translations, compare equivalents, understand sentence structure, and edit texts more quickly (Darman, 2025; Kasneci et al., 2023). Several recent studies indicate that AI technology has been used in Arabic language learning, including to assist with grammar, translation, and translation. On the other hand, AI translations are not always accurate, especially when dealing with Arabic texts with complex grammatical structures, contextual meanings, religious terms, idioms, figurative language (majaz), and cultural nuances (Kenny, 2022; Siyam, 2024).

This problem is increasingly important in the Arabic-Indonesian context because translating Arabic texts cannot be done simply by translating words. Arabic-Indonesian translation requires mastery of grammar, grammar, grammar, semantics, rhetoric, cultural context, and an understanding of the author's intent (Baker, 2018; Munday, 2016; Newmark, 1988). Research on Google Translate in Arabic-Indonesian translation shows that machine translation still faces issues in terms of structure, meaning, and context (Khoiriyah, 2020; Kusuma, 2023). In fact, studies on AI accuracy in Arabic linguistics confirm that sentence context, nuances of meaning, and i'rab interpretation remain challenges for AI systems (Rahmadi, 2022; Siyam, 2024).

This is where an academic problem arises that requires serious examination. Students are increasingly using AI to complete translation assignments, but this ease can weaken analytical thinking if not pedagogically guided. AI translations often appear fluent in the target language, but are not necessarily grammatically, semantically, terminologically, or culturally correct. In the context of learning, the issue is not simply whether students can use AI, but rather how AI can be used critically, transparently, and responsibly.

Studies on AI and translation have extensively discussed the accuracy of machine translation, a comparison between Google Translate and ChatGPT, and the use of AI in post-editing (Algaraady, 2025; O'Brien, 2021). For example, research on ChatGPT in post-editing Arabic translations shows potential for increased productivity, accuracy, and consistency, but still places human editing and evaluation as crucial aspects (Doherty, 2016; O'Brien, 2021). Other studies on ChatGPT-based Arabic-Indonesian translation also highlight the issue of AI reliability when dealing with religious texts containing theological, legal, and cultural expressions (Rahmadi, 2022; Siyam, 2024).

Several recent studies in Ihtimam also reinforce the urgency of this study. Majid et al. (2024) found that ChatGPT tends to produce more accurate and comprehensive Arabic-Indonesian translations than Gemini AI, but still requires human review and editing. Framesthia et al. (2024) showed that ChatGPT outperforms Google Translate in terms of syntactic accuracy, modulation, and amplification, although issues with contextual understanding still require criticism. Meanwhile, Zaidan et al. (2025) emphasized that Arabic-Indonesian translation practices have pedagogical contributions to strengthening language skills, vocabulary, grammatical structure, and cultural understanding. These findings suggest that translation learning in the AI era needs to be examined not only in terms of technological speed, but also in terms of the quality of the learning process, accuracy of meaning, and academic responsibility.

However, studies that specifically position AI as a factor transforming Arabic-Indonesian translation learning methods, student translation competencies, and academic ethics are still needed. AI has often been positioned merely as a technical tool, yet in the educational context, it is also transforming the way students learn, lecturers teach, assignments are assessed, and academic honesty is understood (Bowker & Buitrago-Ciro, 2019; European Commission, 2022).

Against this backdrop, this article aims to analyze Arabic-Indonesian translation learning in the AI era through three main focuses: method transformation, translation competence, and academic ethics. The novelty of this article lies in its attempt to integrate the study of translation methods, AI literacy, translation competence, and academic ethics within a single pedagogical framework for

Arabic-Indonesian translation learning. This article also offers the 5M pedagogical framework as a conceptual alternative to guide the critical and responsible use of AI in translation learning.

METHOD

This article employs a literature review method with a descriptive-analytical and conceptual-critical approach (Snyder, 2019). The literature review was chosen because this article aims to build a conceptual argument regarding the transformation of Arabic-Indonesian translation learning in the era of Artificial Intelligence. The descriptive-analytical approach is used to explain the development of AI in translation activities and language learning, while the conceptual-critical approach is used to analyze its impact on learning methods, translation competencies, and academic ethics (Snyder, 2019).

Data sources in this study include books and scholarly articles on translation theory, translation competencies, Arabic language learning, AI in education, machine translation, generative AI, post-editing, and academic ethics. The literature used was selected based on its relevance to the study's focus, its recency of the issues, and its contribution to the discussion of Arabic-Indonesian translation learning in the AI era. The translation competency model developed by PACTE, for example, serves as an important reference because it views translation competency as a construct involving several sub-competencies, not simply language ability (PACTE Group, 2003, 2017).

Data collection techniques included a literature search, critical reading, recording key concepts, and grouping data based on themes (Snyder, 2019). The themes analyzed included the concept of Arabic-Indonesian translation learning, the use of AI in translation, the transformation of learning methods, translation competencies in the AI era, academic ethics in AI use, and a pedagogical framework for AI-assisted translation learning.

Data analysis techniques were conducted through five stages: literature reduction, thematic categorization, comparative analysis, conceptual synthesis, and formulation of a pedagogical framework (Snyder, 2019). Literature reduction was carried out by selecting sources relevant to the article's focus. Thematic categorization was used to group data into main themes. Comparative analysis was used to compare theoretical perspectives and previous research findings. Conceptual synthesis was conducted to formulate the article's academic position. The final stage was the formulation of the 5M pedagogical framework as a conceptual proposal for AI-assisted Arabic-Indonesian translation learning.

RESULT AND DISCUSSION

RESULT

Basic Concepts of Arabic-Indonesian Translation Learning

Translation in Arabic learning cannot be understood simply as the activity of replacing words from Arabic into Indonesian. It is the process of transferring the message, meaning, context, and intent of a text from the source language to the target language (Nida & Taber, 1982). Therefore, learning translation requires students to understand Arabic as a linguistic system while simultaneously understanding Indonesian as a medium for conveying meaning (Baker, 2018; Newmark, 1988).

In the Arabic-Indonesian context, the translation process is complex. Arabic has a different grammatical system from Indonesian, such as *i'rab* (conjugation), word types, gender, number, *ismiyyah* and *fi'liyyah* number structures, *idhafi tarkib* (conjugation), *na't-man'ut* (property), and interphrasal relations. Meanwhile, Indonesian has a syntactic structure that does not recognize *i'rab* and has a different pattern of meaning construction. This difference requires students not only to understand lexical equivalents but also to be able to accurately translate structure and meaning (Munday, 2016; Newmark, 1988).

Learning Arabic-Indonesian translation is also closely related to the competency of understanding context. A single Arabic word can have different meanings depending on the context of the sentence, the scientific field, and the communicative purpose of the text (Baker,

2018; Munday, 2016). Words used in religious texts, literary texts, academic texts, and popular texts cannot always be translated using the same strategy. Therefore, learning translation must integrate aspects of grammar, grammar, grammar, semantics, rhetoric, pragmatics, and culture (Baker, 2018). In this context, students need to understand the reasons why a text is translated in a particular way (PACTE Group, 2017).

In the tradition of Arabic language learning, the translation method is often associated with text comprehension exercises. However, in the context of modern learning, translation is not sufficient as a tool to aid in understanding Arabic. Translation needs to be positioned as an academic competency involving the processes of analysis, interpretation, selection of equivalents, construction of meaning, and accountability for the translation. Thus, students are not only trained to "translate" but also to understand the reasons why a text is translated in a particular way.

Artificial Intelligence in Translation Activities

The development of AI has fundamentally changed the translation landscape. While previously translation relied heavily on printed dictionaries, digital dictionaries, and the skills of individual translators, today translation also involves AI-based systems such as Google Translate, DeepL, Microsoft Translator, ChatGPT, Gemini, Copilot, and various applications based on large language models (Doherty, 2016; Kenny, 2022). This technology is capable of producing translations quickly and provides alternative editorial options that can be used as starting material in the translation process (Bowker & Buitrago Ciro, 2019).

In an educational context, AI can help students understand difficult words, gain an overview of text content, compare multiple translation alternatives, and edit translations (Kenny, 2022; Kasneci et al., 2023). Studies on the use of AI in Arabic language learning indicate that AI can be used in grammar, translation, and translation through search engines, chatbots, and translation apps. Another study on the use of AI by Arabic language students at Islamic universities also shows that AI is beginning to become part of student learning practices, including in the activity of translating Arabic texts (Darman, 2025).

However, the presence of AI does not mean that the translation process can be completely left to machines. In Arabic-Indonesian translation, AI can still experience difficulties in handling complex grammatical structures, contextual meanings, religious terms, idiomatic expressions, and texts with dense meanings. Research on Google Translate's results in Arabic-Indonesian translations indicates that machine translation needs to be criticized because it can produce errors in understanding the structure and meaning of texts (Khoiriyah, 2020; Kusuma, 2023).

Furthermore, a study of ChatGPT in translating religious Arabic-Indonesian texts shows that AI faces challenges when translating expressions tied to culture, law, and theology. This suggests that in the context of Arabic texts, particularly Islamic scholarly texts, the ability to understand nuances of meaning and interpretive consequences remains a crucial area requiring human control (Rahmadi, 2022; Siyam, 2024).

Thus, AI can be positioned as a partner in translation learning, not as a substitute for human translation competence. AI can help expedite the initial stages of translation, but students must still perform grammatical verification, semantic analysis, context checking, and editing for the target language. In translation learning, AI's pedagogical value lies not in its ability to produce instant answers, but in its opportunity to become an object of critical analysis for students (Bowker & Buitrago Ciro, 2019; Kenny, 2022).

Transformation of the Translation Learning Method in the AI Era

The advent of AI demands a paradigm shift in translation learning methods. Before the AI era, translation learning generally involved reading texts, finding word meanings, analyzing sentence structure, translating manually, and then obtaining corrections from lecturers. This model remains important because it trains linguistic precision and analytical discipline. However, in today's learning reality, students can easily obtain translation results from machines or chatbots in just seconds (Doherty, 2016; Kasneci et al., 2023).

This shift requires lecturers not simply to prohibit the use of AI but also to guide its use pedagogically. Total bans are often ineffective because students can still access AI

independently. Conversely, unregulated freedom also risks undermining the learning process and academic honesty. Therefore, translation learning methods need to shift from an approach solely focused on translation results to one that assesses students' thinking processes, analysis, correction, and accountability (European Commission, 2022; UNESCO, 2023).

The first transformation is the shift from manual methods to AI-assisted methods. In AI-assisted methods, students do not immediately submit the AI translation as the final answer. They are directed to read the source text, create an initial translation, compare the results with the AI output, identify discrepancies, and then edit the final result based on grammatical and semantic considerations. In this way, AI becomes a comparison tool, not a substitute for the learning process (Kenny, 2022).

The second transformation is the shift from product-based learning to process-based learning. In traditional learning, lecturers often assess the final translation. In the AI era, the final product can easily be generated by machines. Therefore, assessment must include the student's process of understanding the text, explaining sentence structure, selecting equivalents, correcting the AI output, and taking responsibility for translation decisions. This aligns with the needs of modern education, which emphasizes the process of critical thinking, not just the final product (Doherty, 2016; Vieira, 2020).

The third transformation is the changing role of lecturers. Lecturers are no longer merely correctors of translation results, but also critical facilitators, AI literacy directors, learning scenario developers, and guardians of academic ethics. Lecturers need to teach how to use AI correctly, how to detect AI errors, how to compare translation results, and how to transparently disclose the use of AI (European Commission, 2022; UNESCO, 2023).

The fourth transformation is the introduction of post-editing practices into translation learning. In the modern translation industry, post-editing is the activity of editing machine translations to meet human quality standards (O'Brien, 2021). Studies of ChatGPT in post-editing Arabic translations demonstrate the potential for using AI to increase productivity and quality, but still require human evaluation and oversight (Algaraady, 2025; Doherty, 2016). In translation learning, post-editing practices can train students to be more critical of AI output and more aware of aspects of meaning, accuracy, coherence, and readability.

Thus, translation learning methods in the AI era need to be directed toward critical, reflective, and responsible learning. Students are not only asked to produce translations, but also to explain the translation process, the reasons for selecting equivalents, forms of correction to AI, and the limits of using technology.

Transformation of Student Translation Competence

The development of AI does not diminish the importance of translation competence, but rather makes it more complex. If students rely solely on AI without basic competency, they will be unable to assess whether the AI's translation is correct or incorrect. Therefore, AI is not a reason to weaken language proficiency, but rather a reason to strengthen translation competence more broadly (PACTE Group, 2003, 2017).

First, students still need linguistic competence. This competence includes mastery of grammar, grammar, grammar, tarkib, number structure, and grammatical relations in Arabic texts. Without linguistic competence, students cannot understand why a word is considered a *fa'il*, *ma'ful*, *mubtada'*, *khavar*, *na't*, *mudhaf ilaih*, or other sentence elements. In Arabic-Indonesian translation, errors in reading structure can lead to errors in meaning (Munday, 2016; Newmark, 1988).

Second, students need semantic and contextual competence. This competency includes the ability to understand the meaning of words based on context, distinguish between literal and figurative meanings, understand the relationships between phrases, and grasp the author's intent. Many translation errors occur not because the translator doesn't know the meaning of the word, but because they fail to understand the context in which the word is used (Baker, 2018; Nida & Taber, 1982).

Third, students need cultural competency. Arabic texts often contain cultural expressions, Islamic terms, idioms, figurative language, and concepts that don't always have direct

equivalents in Indonesian. In this context, translators are tasked not only with transferring language but also with bridging the worlds of meaning between the source and target languages (Baker, 2018; Newmark, 1988).

Fourth, students need technological competency. In the AI era, students need to understand the basic workings of machine translation and generative AI, including their opportunities and limitations. Technological competence not only means being able to use applications, but also selecting the right tools, formulating clear instructions or prompts, critically reading AI output, and avoiding being trapped by the machine's apparent authority (Bowker & Buitrago Ciro, 2019; Kenny, 2022).

Fifth, students need critical-evaluative competence. This competence is crucial because AI often produces text that appears convincing, but is not necessarily accurate. Students need to be trained to detect errors of meaning, inaccuracies in terms of terminology, contextual errors, overly literal translations, or overly liberal wording. Critical-evaluative competence makes students not passive users of AI, but managers of the translation process (Kasneci et al., 2023; Siyam, 2024).

Sixth, students need ethical competence. This competence relates to the ability to understand the limits of AI use, academic honesty, transparency in technology use, and responsibility for translation results. In translation studies, students must understand that the use of AI without acknowledgement or correction processes can be academically problematic (European Commission, 2022; UNESCO, 2023).

The translation competency model developed by PACTE positions translation competency as a combination of various sub-competencies, not simply bilingual proficiency. In the context of the AI era, this concept is increasingly relevant, as translation competency needs to be expanded to include technological literacy, post-editing skills, and ethical responsibility (PACTE Group, 2017; Pym, 2013).

Academic Ethics of Using AI in Tarjamah Learning

The use of AI in translation learning presents a complex academic ethical dilemma. The issue is not simply whether AI is permissible, but also how it should be used, how students are held accountable for the process, and how lecturers assess work involving AI. UNESCO (2023) emphasizes that the use of generative AI in education needs to be guided by policies that protect students, maintain data privacy, and ensure technology remains human-centered (European Commission, 2022; UNESCO, 2023).

In translation learning, AI can be used ethically if positioned as a learning aid. For example, students may use AI to find alternative word combinations, compare sentence structures, obtain initial drafts, or test the readability of translations. However, the use of AI becomes problematic if students submit AI translations without reading, analyzing, correcting, and acknowledging the technology's involvement.

The first principle in the ethical use of AI is transparency. Students should disclose whether they used AI, where it was used, and how the AI output was edited. Transparency is not intended to punish students, but to ensure that the learning process can still be assessed fairly (European Commission, 2022).

The second principle is accountability. Students must remain responsible for the final translation results, even if the process is partially assisted by AI. If there are errors in meaning, terminology errors, or contextual deviations, students cannot entirely blame the machine. In an academic context, the final result remains the responsibility of the author or translator (Pym, 2013).

The third principle is academic honesty. The use of AI without acknowledgement can raise originality issues. In translation assignments, students need to distinguish between using AI as an aid and submitting AI-generated work as their own. A recent study on academic integrity in the context of machine translation indicates that the unauthorized use of machine translation in student assignments has become a significant concern in language and translation education (Zhou & Wang, 2026).

The fourth principle is academic validity. Lecturers need to ensure that translation assignments continue to measure student competency, not simply the ability to use AI. Therefore, the format of assignments needs to be adjusted. For example, students are not only required to submit a final translation, but also a structural analysis of the text, notes on corrections to AI, rationale for selecting equivalents, and reflections on the use of technology (European Commission, 2022; UNESCO, 2023).

The fifth principle is equity of access. Not all students have equal access to premium AI tools, stable internet connections, or adequate technological literacy. Therefore, the integration of AI in translation learning needs to consider access disparities to avoid creating inequities in the learning process (European Commission, 2022; UNESCO, 2023).

Therefore, the academic ethics of using AI in translation learning cannot simply be formulated as prohibitions. What is more necessary are clear guidelines for use, transparent assessment rubrics, and the instilling of honest, critical, and responsible academic attitudes.

The 5M Pedagogical Framework in AI-Assisted Arabic-Indonesian Translation Learning

Based on the above analysis, this article offers the 5M pedagogical framework as a conceptual alternative for AI-assisted Arabic-Indonesian translation learning. This framework positions AI not as a substitute for students, but as a learning partner that must be critiqued, verified, and accounted for (Bowker & Buitrago Ciro, 2019; Kenny, 2022).

Read

The first step is to carefully read the Arabic text. Students are instructed to read the source text before using AI. The goal is for students to have direct contact with the text, recognize the general structure, find keywords, and understand the initial context. At this stage, instructors can ask students to highlight difficult words, important sentence structures, and potentially ambiguous sections (Nida & Taber, 1982; Munday, 2016).

Analyze

The second stage is analyzing the structure and meaning of the text. Students are asked to identify elements of grammar, grammar, interphrase relationships, lexical meaning, contextual meaning, and possible idiomatic meaning. This stage is crucial to prevent students from relying directly on AI results. Manual analysis serves as the basis for assessing the accuracy of AI translations (Baker, 2018; Newmark, 1988).

Compare

The third stage is comparing the results of their own translations with those of the AI. Students can use AI to generate alternative translations but must compare them with their own analysis. This comparison includes aspects of accuracy of meaning, terminology accuracy, Indonesian readability, contextual appropriateness, and fidelity to the message of the source text (Bowker & Buitrago Ciro, 2019; Kenny, 2022).

Editing

The fourth stage is editing the translation. Students refine the translation based on the analysis and comparison. Editing includes improving sentence structure, choosing diction, adjusting terms, strengthening coherence, and avoiding distorted meanings. At this stage, students are trained in post-editing the AI results (O'Brien, 2021).

Accountable

The fifth stage is to account for the translation results. Students are asked to explain the rationale for the translation, the parts assisted by AI, the types of corrections made, and the academic considerations behind the final result. This stage is crucial for establishing transparency, accountability, and academic honesty (European Commission, 2022; UNESCO, 2023).

The 5M framework can be described as follows:

Stage	Student Activities	Role of AI	Role of the Lecturer
Reading	Read the source text and identify its context.	Not used or used only to a limited extent.	Guide students' reading focus and contextual understanding.
Analyzing	Analyze the grammar (nahwu), morphology (sharaf), meaning, and context of the source text.	Serve as a limited reference for comparison.	Guide and facilitate the analytical process.
Comparing	Compare students' own translations with AI-generated translations.	Provide alternative translation options.	Direct students in conducting critical evaluation.
Editing	Revise and refine the translation.	Assist in improving wording and stylistic variations.	Assess the quality of the revised translation.
Justifying	Explain the translation process and the use of AI.	Does not serve as the final authority.	Evaluate both the translation process and the ethical use of AI.

This framework has several pedagogical implications. First, translation learning is no longer solely oriented toward the final result, but rather toward the thought process. Second, AI is used in a controlled manner as a learning tool. Third, students are trained to become critical users of AI, not passive users. Fourth, academic ethics becomes an integral part of learning, not merely an administrative rule (European Commission, 2022; UNESCO, 2023).

DISCUSSION

The researcher's analysis of the overall study results indicates that the transformation of Arabic-Indonesian translation learning in the AI era should not be interpreted as a simple shift from human to machine work. A more fundamental change lies in the shift in learning orientation from the ability to produce translations to the ability to test, assess, edit, and account for translations. Thus, the results of this study demonstrate that AI can accelerate the production of translation drafts, but it does not automatically guarantee accuracy of meaning, contextual equivalence, and academic validity.

When compared with translation theory, these results align with Nida and Taber's (1982) view that translation relies on a natural transmission of the message that aligns closely with the meaning of the source language. This principle emphasizes that fluency in the target language is not sufficient to define a quality translation. In the Arabic-Indonesian context, the theories of Baker (2018), Munday (2016), and Newmark (1988) also reinforce that translation requires consideration of the grammatical, semantic, pragmatic, cultural, and communicative purposes of the text. Therefore, the researcher believes that AI output should be considered as a starting point for testing through analysis of grammar, grammar, context, terminology, and Indonesian language acceptability.

At the competency level, the findings of this study align with the PACTE model, which views translation competency as a combination of various sub-competencies, not simply bilingual proficiency (PACTE Group, 2003, 2017). In the AI era, these sub-competencies need to be expanded to include technological literacy, the ability to evaluate machine output, post-editing skills, and ethical sensitivity. This view also aligns with Pym (2013) and O'Brien (2021), who place the ability to select, evaluate, and edit machine translation results as a crucial component of modern translator skills. This means that students should not simply be able to use AI; they must also be able to explain why AI results are accepted, rejected, or modified.

The results of this study also align with and extend previous research. Khoiriyah (2020) and Kusuma (2023) have shown that Arabic-Indonesian machine translation still faces issues of

structure and meaning. The findings of Majid et al. (2024) in Ihtimam asserted that ChatGPT can be more accurate than Gemini AI, but still requires manual review. Framesthia et al. (2024) also demonstrated ChatGPT's superiority over Google Translate in several aspects of syntax and translation techniques, but these results did not eliminate the need for human control. Meanwhile, Zaidan et al. (2025) emphasized that Arabic-Indonesian translation has a pedagogical function in strengthening language, vocabulary, structure, and culture. Thus, this study not only confirms previous findings about the limitations and potential of AI but also offers pedagogical direction through the 5M framework so that AI can be used as a means of developing competence, not as an academic shortcut.

The researchers' critical position is that AI integration in translation learning must be distinguished from dependence on AI. Integration means that lecturers consciously design activities for reading, analyzing, comparing, editing, and accounting for the translation results; whereas dependence occurs when students hand over the authority to the machine for interpretation. This distinction is important because Arabic texts, especially religious, academic, and cultural texts, carry not only lexical information but also interpretative consequences. Therefore, the 5M framework is positioned as a pedagogical model that connects translation theory, AI literacy, previous research findings, and academic ethics in a more critical and responsible learning process.

CONCLUSION

Arabic-Indonesian translation learning in the era of Artificial Intelligence has undergone a significant transformation. AI has shifted learning methods from manual translation to technology-assisted learning that demands evaluation, editing, and accountability skills. This shift requires lecturers to act not only as proofreaders, but also as critical facilitators, AI literacy directors, and guardians of academic ethics.

Student translation competencies in the AI era extend beyond linguistic mastery. Students also require semantic, cultural, technological, critical-evaluative, and ethical competencies. AI can assist the translation process, but it cannot replace human abilities in understanding context, nuances of meaning, scientific terminology, and academic responsibility.

The use of AI in translation learning must be based on the principles of transparency, accountability, academic honesty, learning validity, and fair access. Therefore, this article offers a pedagogical framework of the 5Ms: reading, analyzing, comparing, editing, and being accountable. This framework positions AI as a learning partner that must be critiqued and verified, not as a substitute for students' translation competencies.

Theoretically, this article expands the study of translation methods by incorporating the dimensions of AI, technological literacy, and academic ethics. Practically, this article can serve as a reference for Arabic language lecturers in designing translation lessons that adapt to technological developments. However, this study is still conceptual in nature, so further research is needed to test the effectiveness of the 5M framework in Arabic-Indonesian translation learning practices in the classroom.

REFERENCES

- Algaraady, J. (2025). Exploring ChatGPT's potential for augmenting post-editing in machine translation across multiple domains: Challenges and opportunities. *Frontiers in Artificial Intelligence*.
- Baker, M. (2018). *In other words: A coursebook on translation* (3rd ed.). Routledge.
- Bowker, L. (2023). *De-mystifying translation: Introducing translation to non-translators*. Routledge.
- Bowker, L., & Buitrago-Ciro, J. (2019). *Machine translation and global research: Towards improved machine translation literacy in the scholarly community*. Emerald Publishing.
- Darman, I. H. (2025). Utilization of AI technology in translation among Arabic language students. *Aphorisme: Journal of Arabic Language, Literature, and Education*.

- Dinata, F. R., & Kuswadi, A. (2025). *Pengembangan Media Pembelajaran Interaktif Berbasis AI untuk Pembelajaran PAI di MI Roudhotu Tolibin Pisang Indah*. 1(2), 1–9.
- Doherty, S. (2016). The impact of translation technologies on the process and product of translation. *International Journal of Communication*, 10, 947-969.
- Fahmi Husein, Moh Solikul Hadi, E. K. (2024). *Strategi Digital Detox untuk Siswa : Efektivitas Pendidikan Islam melalui Program Bimbingan Konseling pada Anak SMA / SMK di Yogyakarta Penerbangan AAG Adisutjipto , penerapan strategi Digital Detox melalui program*. 13, 358–369.
- European Commission. (2022). Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators. Publications Office of the European Union.
- Framesthia, L. M., Khoerunnisa, S., Al Izzah, S., Al Farisi, M. Z., & Supriadi, R. (2024). Analisis perbandingan teknik penerjemahan Arab-Indonesia pada Google Translate dan ChatGPT (Kajian sintaksis: Kalimat verba dan nomina). *Ihtimam: Jurnal Pendidikan Bahasa Arab*, 7(02), 114-127. <https://doi.org/10.36668/jih.v7i02.716>
- Hadi, M. S. (2018). *Implementasi Model Pengembangan Multiple Intellegence Dalam Meningkatkan Kecerdasan Natural Peserta Didik Melalui Metode Project Based Learning Di Kelas X Manpk Yogyakarta Pada Mata Pelajaran Fikih*. 152. <https://digilib.uin-suka.ac.id/id/eprint/33289/>
- Hadi, M. S., Abrori, M. S., & Zahra, D. N. (2020). Pengembangan Multimedia Interaktif Macromedia Flash Profesional 8 Pada Pembelajaran Al-Qur'an Hadis Kelas X Semester Genap Di Man 1 Yogyakarta. *At-Tajdid : Jurnal Pendidikan Dan Pemikiran Islam*, 3(2), 148. <https://doi.org/10.24127/att.v3i2.1123>
- Hadi, M. S., Amalia, M., Rose, S., Tinggi, S., Islam, A., & Syuhada, M. (2025). *Heutagogical Self-Directed Learning in an Indonesian Islamic Senior High School: Teacher Scaffolding , Digital Practices , and Policy Implications*. 5(2), 239–252. <https://doi.org/10.14421/hjie.52-08>
- Hadi, M. S., Amrullah, A. K., & Anwar, K. (2024). *Journal of Islamic Scriptures in Non-Arabic Societies Membentuk Peserta Didik Menjadi Pribadi Ulul al-bab Prespektif*. 1(1), 61–62.
- Hadi, M. S., Setiawan, V., & Hidayah, P. M. (2025). *The Effect of Implementing Deep Learning on Improving Students ' Cognitive Abilities in the Independent Curriculum at Yogyakarta High Schools*. 7(1). <https://doi.org/10.25217/jrie.v7i1.5637>
- Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., Stadler, M., & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kenny, D. (Ed.). (2022). Machine translation for everyone: Empowering users in the age of artificial intelligence. Language Science Press. <https://doi.org/10.5281/zenodo.6653406>
- Khoiriyah, H. (2020). Kualitas hasil terjemahan Google Translate dari bahasa Arab ke bahasa Indonesia. *Al Mi'yar: Jurnal Ilmiah Pembelajaran Bahasa Arab dan Kebahasaaraban*.
- Kusuma, E. D. (2023). Analysis of Arabic-Indonesian translation errors on Google Translate. *Scaffolding: Jurnal Pendidikan Islam dan Multikulturalisme*.
- Majid, M. N., Akmaliah, A., & Hermawan, M. B. (2024). Perbandingan hasil terjemah Arab-Indonesia antara ChatGPT dan Gemini AI. *Ihtimam: Jurnal Pendidikan Bahasa Arab*, 7(02), 1-21. <https://doi.org/10.36668/jih.v7i02.1004>
- Munday, J. (2016). *Introducing translation studies: Theories and applications* (4th ed.). Routledge.
- Newmark, P. (1988). *A textbook of translation*. Prentice Hall.

- Nida, E. A., & Taber, C. R. (1982). *The theory and practice of translation*. E. J. Brill.
- O'Brien, S. (2021). Post-editing. In Y. Gambier & L. van Doorslaer (Eds.), *Handbook of Translation Studies: Volume 5* (pp. 177-183). John Benjamins. <https://doi.org/10.1075/hts.5.pos3>
- PACTE Group. (2003). Building a translation competence model. In F. Alves (Ed.), *Triangulating translation: Perspectives in process oriented research*. John Benjamins.
- PACTE Group. (2017). *Researching translation competence by PACTE Group*. John Benjamins.
- Pym, A. (2013). Translation skill-sets in a machine-translation age. *Meta*.
- Rahmadi, A. (2022). Kesalahan penerjemahan Google Translate pada Hadis Arbain berdasarkan konteks keagamaan. *Alsina: Journal of Arabic Studies*.
- Siyam, F. F. (2024). Accuracy analysis of Artificial Intelligence in Arabic linguistic tasks. *Al-Bayan: Jurnal Jurusan Pendidikan Bahasa Arab*.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO.
- Vieira, L. N. (2020). Automation anxiety and translators. *Translation Studies*, 13(1), 1-21. <https://doi.org/10.1080/14781700.2018.1543613>
- Zaidan, M., Rivaldy, D. A., Tsaniya, S. B., & Edidarmo, T. (2025). Konsep terjemah Arab-Indonesia dan kontribusinya dalam pembelajaran bahasa Arab. *Ihtimam: Jurnal Pendidikan Bahasa Arab*, 8(01), 152-168. <https://doi.org/10.36668/jih.v8i01.1368>
- Zhou, X., & Wang, X. (2026). Upholding academic integrity: An exploratory study of AI-assisted detection of unauthorized machine translation use in student translations. *Humanities and Social Sciences Communications*.