

The Usage of Search Engines and Artificial Intelligence in Translation

Moh. Hanafi¹

Universitas Bhinneka PGRI

e-mail: hanafi@ubhi.ac.id¹

Ayu Rizki Septiana²

Universitas Bhinneka PGRI

e-mail: ayu@ubhi.ac.id²

Submitted: July 3, 2026

Accepted: July 27, 2026

ABSTRACT

This study reports a qualitative investigation into the use of search engines and Artificial Intelligence (AI) in students' translation activities. The research aimed to examine how search engines and AI support students in translating texts from English into Indonesian and vice versa. The participants were students enrolled in a Translation course. Data were collected through classroom observations, interviews, and questionnaires. The findings reveal that students were allowed to utilize various digital resources, including search engines and AI-powered translation tools, during translation activities. The participants perceived these technologies as beneficial in improving translation quality, particularly in producing more accurate and natural translations. Students commonly employed search engines to explore contextual meanings, consult online references, and verify terminology, while AI tools were mainly used to generate initial translations and alternative expressions. Nevertheless, the students did not rely entirely on AI-generated translations because they still questioned the accuracy and naturalness of some outputs. The students' translation performance was categorized as good, with a mean score of 78.67. Overall, the findings indicate that the combination of search engines and Artificial Intelligence plays an important supporting role in students' translation processes by providing broader linguistic resources and facilitating decision-making during translation.

Keywords: search engines, artificial intelligence, translation, translation technology, qualitative research

INTRODUCTION

Translation is one of the compulsory courses for students in English Education programs at many Indonesian universities. Students are expected to develop the ability to translate texts accurately and naturally between English and Indonesian. Producing a high-quality translation requires not only linguistic competence but also sufficient background knowledge, cultural understanding, and the ability to select appropriate lexical and grammatical expressions (Munday, 2022; Robinson, 2012).

Recent developments in digital technology have significantly transformed translation practices. While search engines have long been used to locate contextual information, authentic language use, and specialized terminology (Shei, 2008), the emergence of Artificial Intelligence (AI) has introduced more advanced support for translators. AI-powered

applications such as Google Translate, ChatGPT, DeepL Translator, and Microsoft Copilot can generate translations, explain vocabulary, suggest alternative expressions, and assist users in understanding contextual meanings. Consequently, translation has become more efficient and accessible for students, enabling them to complete translation tasks with greater speed and linguistic support (Karataş et al., 2024; Shin, 2024).

Search engines and AI, however, serve different functions in translation activities. Search engines primarily help users retrieve authentic information, verify terminology, and observe language use in real contexts (Shei, 2008). In contrast, AI systems provide interactive language generation, contextual explanations, and translation suggestions through natural language processing (Karataş et al., 2024). Although these technologies have become increasingly integrated into language education, students are still required to critically evaluate AI-generated translations because machine-generated outputs may contain lexical inaccuracies, grammatical inconsistencies, or fail to capture contextual and cultural nuances (Munday, 2022; Hidayati & Nihayah, 2024).

Therefore, this study investigates how students utilize search engines and Artificial Intelligence during translation activities and examines how these technologies contribute to students' translation performance. The findings are expected to provide insights into the integration of digital technologies in translation pedagogy and to support the effective use of search engines and AI as complementary tools in translation learning (Shin, 2024; Karataş et al., 2024).

RESEARCH METHOD

This study aimed to investigate the usage of search engines and Artificial Intelligence (AI) in students' translation activities. Specifically, it sought to describe how search engines and AI-powered tools support students in translating texts from English into Indonesian and vice versa. Since the study intended to explore students' experiences, perceptions, and practices in using these digital technologies during translation, a descriptive qualitative research design was employed. According to McMillan (1992), qualitative research is appropriate for describing and interpreting phenomena through verbal data obtained from participants. Therefore, descriptive qualitative research was considered the most suitable approach for achieving the objectives of this study.

The selection of a qualitative research design was based on its ability to provide comprehensive and in-depth descriptions of participants' experiences and interactions with the

phenomenon being investigated. Through qualitative inquiry, researchers can explore how students utilize search engines and AI applications during translation activities, the reasons for using these technologies, and the perceived benefits and challenges encountered. This approach allows for a richer understanding of the role of digital technologies in translation learning than could be obtained solely through quantitative measurement.

The research was conducted at Universitas Bhinneka PGRI, involving students enrolled in the Translation course during the 2025/2026 academic year. The participants were selected because they regularly engaged in translation activities as part of the course and were encouraged to utilize various digital resources, including search engines and Artificial Intelligence (AI)-powered translation tools, to support their translation tasks. This learning environment provided an appropriate setting for investigating how students integrated these technologies into their translation practices.

In this study, the researchers served as the primary research instrument, responsible for planning the study, collecting data, and interpreting the findings. Data were collected through classroom observations, semi-structured interviews, and questionnaires to obtain comprehensive information regarding students' use of search engines and AI during translation activities. Additionally, students' translation scores, obtained from the lecturer responsible for the Translation course, were used as supporting data to describe their translation performance.

FINDINGS

a. Result of the Observation

Based on the classroom observations conducted in the Translation course at Universitas Bhinneka PGRI, the teaching and learning process began with classroom opening activities followed by building students' background knowledge related to the translation topic. The lecturer explained the translation materials and introduced appropriate translation strategies before assigning students to translate short texts from Indonesian into English or vice versa, depending on the instructional objectives.

During the translation activities, students were encouraged to utilize various digital resources, including search engines and Artificial Intelligence (AI)-powered applications, to support their translation process. They frequently used search engines such as Google to locate contextual information, authentic language use, and specialized terminology. In addition, students employed AI-assisted translation tools, including Google Translate, ChatGPT, and other AI applications, as well as online dictionaries available on their computers or

smartphones. Students were also allowed to discuss translation problems collaboratively with their classmates.

After completing the translation task, the students' work was discussed collectively in the classroom. The lecturer invited several students to write parts of their translations on the whiteboard before discussing the accuracy, appropriateness, and naturalness of the translated text. During this session, the lecturer provided feedback and suggestions to improve translation quality and encouraged students to compare AI-generated translations with human judgment to produce more accurate and natural translations.

At the end of the learning process, no additional translation assignments were given outside the classroom. Therefore, most translation practice was conducted during classroom activities under the lecturer's supervision.

b. Result of the Interview

Semi-structured interviews were conducted with six students who were selected randomly from the Translation course. The participants consisted of three male and three female students who actively participated in classroom discussions and translation activities.

Based on the interview results, one participant stated that the use of search engines and AI applications did not significantly influence the quality of translation. According to this student, translation quality depended more on translation strategies, linguistic competence, and continuous practice than on the digital tools themselves.

Conversely, three participants reported that search engines and AI-assisted applications greatly facilitated their translation activities. They explained that search engines helped them identify appropriate terminology and authentic language usage, while AI tools such as Google Translate and ChatGPT assisted them in generating initial translations, finding alternative expressions, and understanding contextual meanings. Online dictionaries were also frequently used to verify vocabulary and improve lexical accuracy.

The remaining two participants acknowledged that AI-assisted translation tools were useful for completing translation tasks more efficiently. However, they emphasized that AI-generated translations should not be accepted without careful evaluation because some outputs were inaccurate or unnatural in particular contexts.

Overall, the interview findings indicate that students perceived search engines and Artificial Intelligence as valuable learning resources that supported their translation activities. Nevertheless, they recognized that human judgment remained essential for evaluating translation accuracy and naturalness.

c. Result of the Questionnaire

Twenty-four students completed a close-ended questionnaire concerning the use of search engines and Artificial Intelligence in translation activities. The questionnaire employed a five-point Likert scale consisting of Always, Often, Sometimes, Seldom, and Never. Eight statements were used to investigate students' perceptions and practices regarding digital technologies in translation.

Table 1. The Use of Search Engines and Artificial Intelligence in Assisting Translation

q1					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	6	25.0	25.0	25.0
	4	14	58.3	58.3	83.3
	5	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

From Table 1, it can be seen that three students answered sometimes, fourteen answered often, and four answered always. These findings indicate that the majority of the respondents perceived search engines and AI-assisted applications as helpful tools in supporting translation activities.

Table 2. The Use of Search Engines to Search for Difficult Terms

q2					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	4	16.7	16.7	16.7
	4	19	79.2	79.2	95.8
	5	1	4.2	4.2	100.0
	Total	24	100.0	100.0	

Based on Table 2, four students answered sometimes, nineteen answered often, and one answered always. These findings indicate that search engines were frequently utilized to locate unfamiliar vocabulary, technical terminology, and contextual information during translation.

Table 3. The Use of AI-Powered Translation Tools

q3					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	8.3	8.3	8.3
	2	4	16.7	16.7	25.0
	3	7	29.2	29.2	54.2
	4	6	25.0	25.0	79.2
	5	5	20.8	20.8	100.0
	Total	24	100.0	100.0	

Table 3 demonstrates that students still frequently employed AI-powered translation tools such as Google Translate in completing translation tasks. The majority selected sometimes, indicating that AI applications were commonly used as supporting resources rather than as the sole source of translation.

Table 4. The Use of Online Dictionaries

q4					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	3	12.5	12.5	12.5
	4	7	29.2	29.2	41.7
	5	14	58.3	58.3	100.0
	Total	24	100.0	100.0	

Table 4 results show that online dictionaries remained one of the most frequently used digital resources. Most students answered always, suggesting that online dictionaries continued to play an important role in verifying vocabulary and improving translation accuracy.

Table 5. Reading Online Articles to Search for Difficult Terms

q5					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	4	16.7	16.7	16.7
	4	3	12.5	12.5	29.2
	5	17	70.8	70.8	100.0
	Total	24	100.0	100.0	

Table 5 indicates that most students regularly read online articles and authentic texts to understand difficult terms and observe language usage in context. This practice complemented the use of search engines and AI tools during translation.

Table 6. Satisfaction with AI-Generated Translation Results

q6					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	10	41.7	41.7	41.7
	3	10	41.7	41.7	83.3
	4	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

The findings reveal that most students were only moderately satisfied with AI-generated translations. Many respondents selected seldom or sometimes, suggesting that although AI applications were useful, students still recognized the need to revise and evaluate the generated translations critically.

Table 7. The Use of Dictionary Software

q7					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	2	8.3	8.3	8.3
	4	14	58.3	58.3	66.7
	5	8	33.3	33.3	100.0
	Total	24	100.0	100.0	

The questionnaire results indicate that digital dictionary software such as Longman and Cambridge were frequently utilized. These applications were considered useful for confirming meanings, collocations, pronunciation, and contextual language use.

Table 8. The Importance of Search Engines and Artificial Intelligence in Translation

q8					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	37.5	37.5	37.5
	2	2	8.3	8.3	45.8
	3	10	41.7	41.7	87.5
	5	3	12.5	12.5	100.0
	Total	24	100.0	100.0	

The results suggest that students perceived search engines and AI applications as valuable resources in translation activities. Although students demonstrated different levels of

dependence on these technologies, the majority acknowledged their usefulness as complementary tools during translation.

Table 9. Students' Translation Performance

STUDENTS	TRANSLATION SCORE
SS	90
HTC	75
DAS	88
DAD	65
MBIS	85
EP	72
GTBKD	80
AGA	82
APB	75
LA	80
DP	80
SM	80
ARA	65
AP	82
PAK	68
AS	75
FSD	82
RRP	88
AND	80
DM	72
YA	90
MSS	82
DS	80
IMN	72

Descriptive Statistics				
	N	Minimum	Maximum	Mean
VAR00001	24	65.00	90.00	78.6667
Valid N (listwise)	24			

The descriptive statistical analysis indicates that the twenty-four students who participated in the Translation course achieved translation scores ranging from 65 to 90, with a mean score of 78.67. These findings suggest that the students' overall translation performance can be categorized as good. The observation, interview, and questionnaire findings further indicate that search engines and Artificial Intelligence served as supporting tools that facilitated

students' translation activities, while translation competence continued to depend on students' linguistic knowledge, critical evaluation, and translation strategies.

DISCUSSION

The findings of this study indicate that search engines and Artificial Intelligence (AI) have become important supporting resources in students' translation activities. Based on the classroom observations, interviews, and questionnaire responses, students actively utilized digital technologies to assist them in understanding vocabulary, identifying appropriate terminology, and producing more natural translations. The integration of these technologies into translation learning demonstrates that digital literacy has become an essential component of translation competence in higher education.

The observation results revealed that students frequently combined multiple digital resources during translation activities. Search engines were primarily used to retrieve authentic language examples, verify terminology, and obtain contextual information from various online sources. Meanwhile, AI-powered applications such as Google Translate and ChatGPT were employed to generate initial translations, provide alternative expressions, and clarify contextual meanings. Rather than relying on a single digital resource, students tended to combine search engines, AI applications, and online dictionaries to improve the quality of their translations. This finding suggests that students perceive these technologies as complementary tools that facilitate different stages of the translation process.

The interview findings further demonstrate that students generally viewed search engines and AI positively. Most participants reported that these technologies improved the efficiency of translation by reducing the time needed to search for vocabulary and by providing immediate translation suggestions. However, students also acknowledged that AI-generated translations were not always accurate or contextually appropriate. Several participants explained that they usually verified AI-generated translations using search engines, online dictionaries, or authentic English texts before deciding on the final translation. This finding indicates that students did not rely blindly on AI but instead exercised critical judgment when evaluating translation outputs.

The questionnaire results support both the observation and interview findings. Most students reported that they frequently used search engines to identify unfamiliar vocabulary and consult authentic language examples. AI-assisted translation tools were also widely used during translation tasks, although students indicated only moderate satisfaction with AI-

generated translations. This suggests that AI applications are perceived primarily as learning aids rather than as complete replacements for human translators. Students recognized that translation quality still depends on their linguistic knowledge, translation strategies, and ability to evaluate the appropriateness of AI-generated outputs.

The findings of this study are consistent with previous research on technology-assisted translation. Shei (2008) argues that search engines can serve as valuable resources for verifying phraseology and identifying authentic language usage, enabling translators to produce more natural translations. Likewise, Karataş et al. (2024) emphasize that AI applications such as ChatGPT provide immediate language support, explanations, and contextual feedback that facilitate language learning and translation activities. Similarly, Shin (2024) reports that AI-assisted translation tools enhance students' learning experiences by offering interactive assistance and multiple translation alternatives, although learners should continue to evaluate AI-generated outputs critically. Therefore, the present findings reinforce previous studies by showing that search engines and AI complement each other in supporting students' translation practices.

Despite the advantages offered by digital technologies, the findings also highlight several challenges. Students reported that AI-generated translations occasionally produced inaccurate lexical choices, unnatural expressions, or contextually inappropriate interpretations. Consequently, translation competence cannot be developed solely through the use of AI tools. Students must possess adequate linguistic competence, cultural awareness, and translation strategies to determine whether AI-generated outputs are acceptable in specific contexts. Human evaluation remains an indispensable component of the translation process, particularly when translating texts that require contextual understanding, pragmatic interpretation, and cultural adaptation.

Overall, the findings suggest that the effective use of search engines and Artificial Intelligence can enhance students' translation learning when these technologies are employed as complementary resources rather than as substitutes for human judgment. Translation instructors should therefore encourage students not only to utilize AI applications efficiently but also to develop critical evaluation skills, verify information from multiple sources, and apply appropriate translation strategies. Such an approach will enable students to maximize the benefits of digital technologies while maintaining translation accuracy, naturalness, and contextual appropriateness.

CONCLUSION

This study investigated the usage of search engines and Artificial Intelligence (AI) in students' translation activities at Universitas Bhinneka PGRI. The findings indicate that both technologies have become valuable supporting resources in the translation learning process. Students frequently utilized search engines to retrieve authentic language examples, verify terminology, and obtain contextual information, while AI-powered applications such as Google Translate and ChatGPT were employed to generate initial translations, suggest alternative expressions, and improve translation efficiency. The integration of these digital tools enabled students to complete translation tasks more effectively and contributed to the development of more accurate and natural translations.

The findings also reveal that students did not rely entirely on AI-generated translations. Instead, they combined search engines, AI applications, and online dictionaries to cross-check vocabulary, confirm contextual meanings, and evaluate translation quality. This practice demonstrates that students recognize the importance of critical thinking and human judgment in the translation process. Although AI significantly facilitates translation activities, its outputs still require careful evaluation to ensure lexical accuracy, grammatical correctness, and contextual appropriateness.

Overall, search engines and Artificial Intelligence should be viewed as complementary learning tools rather than substitutes for translators' linguistic competence. Their effective use depends on students' translation knowledge, language proficiency, and ability to critically evaluate digital resources. Therefore, translation instruction in higher education should encourage students to develop both digital literacy and translation competence so that they can utilize search engines and AI responsibly and effectively in producing high-quality translations.

Future research is recommended to investigate the effectiveness of specific AI-powered translation tools, such as ChatGPT, DeepL, and Microsoft Copilot, using larger participant groups and mixed-method or experimental research designs. Such studies may provide deeper insights into how AI can be integrated into translation pedagogy while maintaining the essential role of human expertise in translation.

REFERENCES

- Hidayati, N. N., & Nihayah, D. H. (2024). *Google Translate, ChatGPT or Google Bard AI: A study toward non-English department college students' preference and translation comparison*. Inspiring: English Education Journal, 7(2), 106–123.

- Karataş, F., Abedi, F. Y., Gunyel, F. O., Karadeniz, D., & Kuzgun, Y. (2024). *Incorporating AI in foreign language education: An investigation into ChatGPT's effect on foreign language learners*. Education and Information Technologies, 29, 19343–19366. <https://doi.org/10.1007/s10639-024-12574-6>
- McMillan, J.H. 1992. *Educational Research: Fundamentals for the Consumer*. Michigan: HarperCollins Publisher.
- Munday, J. (2022). *Introducing translation studies: Theories and applications (5th ed.)*. Routledge.
- Robinson, D. (2012). *Becoming a translator: An introduction to the theory and practice of translation (3rd ed.)*. Routledge.
- Shei, C.-C. (2008). *Discovering the hidden treasure on the Internet: Using Google to uncover the veil of phraseology*. Computer Assisted Language Learning, 21(1), 67–85. <https://doi.org/10.1080/09588220701865516>
- Shin, J. (2024). *Exploring the utilization of ChatGPT in translation education*. Journal of Translation Studies, 25(2), 39–67.