

STUDENTS' EXPERIENCES OF USING DEEPL IN EFL WRITING CLASSROOMS: A SYSTEMATIC LITERATURE REVIEW

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Abstract

In education, Artificial Intelligence (AI) technologies significantly assist students in their language learning. One of the technologies is *DeepL*. Thus, it is essential to identify the factors shaping students' positive experiences, as well as the challenges they face, while utilizing *DeepL*, specifically for their English writing activities. To complete the study's goal, the writer used the *Google Scholar* database to explore fifteen peer-reviewed journal articles published between 2020 until 2025. The findings of this study could be divided into five themes: (1) *DeepL* gives accurate translation results, (2) *DeepL* improves users' ability in writing, (3) *DeepL* offers various alternative words or synonyms, (4) *DeepL* causes students over reliance on the tool, and (5) *DeepL* struggles with translating specialized items. Each theme's discussions provide information about relevant studies, offer practical suggestions (e.g. expanding the scope of literature review by incorporating a wider range of academic databases and source types) to address the limitations, and suggest future research directions (e.g. investigating the long-term effects of *DeepL* on students' writing skills and methods teachers can employ to reduce students' dependency on the tool).

Keywords: *EFL writing, DeepL, students' experiences, systematic review*

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Introduction

Technology has such a big impact on education. Studies have shown that students prefer modern technological devices and tools, as these enhance both their learning experience and level of engagement (Bedenlier et al., 2020; Mali, 2024; Raja & Nagasubramani, 2018; Teng & Wang, 2021). In particular, the effectiveness and standard of learning are significantly improved by artificial intelligence (henceforth called AI) technology, and studies indicate that students prefer to use recent technological tools and devices that enhance their overall learning process and level of engagement (Fitria, 2021; Harry, 2023; Mirdad et al., 2024). Learners said the AI they were using could help them grasp the language and expressions used in their writing, comprehend theoretical ideas, and support them while writing (Sumakul et al., 2022).

Nowadays, AI, a technology that enables machines to function like humans (Omar & Salih, 2024; Winarti et al., 2025), provides many assistances for students to use. One of the ways AI can assist is by helping students interpret one language into another. Using AI translation tools should make English as a foreign language (EFL) students' writing assignments more practical and doable.

However, for some EFL students, writing in English may be challenging (Febriani, 2022; Mali, 2023; Muamaroh et al., 2020; Taye & Mengesha, 2024). The difficulty of writing in a second language (L2) primarily comes from the extra cognitive effort to form and express ideas properly (Yasunari, 2012). When students attempt to write, they may find it challenging to convey their ideas because each genre has its own generic structure, language features, and purposes (Alisha et al., 2019). Students believed that they had poor grammar skills and lacked vocabulary that made it hard to choose the right words (Alisha et al., 2019), which may also hinder students' ability to produce coherent and natural-sounding texts. Additionally, EFL writers often think in their first language (L1) and then translate their ideas into the L2, which can cause their native language to affect their English writing, making it harder for them to use proper English grammar and sentence patterns in their work (Fitriani et al., 2021). Thus, the difficulties collectively create significant barriers to EFL students' ability in produce effective written work. To overcome this issue, learners can use the machine translation tool to expand their vocabulary, enhance grammatical accuracy, comprehend text better, and complete language tasks more efficiently (Klimova, 2025).

Therefore, it is essential for teachers to introduce AI-powered translation tools for students to use in their writing assessments. With

teacher support, students improve their ability to use the AI translation tool effectively, making their writing clearer and more accurate (Birdsell, 2022). As a result, the tools support their language learning rather than replace them. One of the translation machines the researcher wants to explore further is *DeepL*. With all the backgrounds in mind, the researcher aims to answer the following questions: (1) How do EFL students feel about the advantages of using *DeepL* in their writing?; (2) What challenges do EFL students encounter while using *DeepL* in their writing?

The following section provides a brief overview of the literature on the definition of *DeepL*. *DeepL* is an advanced multilingual translation engine established in 2017 (DeepL SE, 2017). It can convert text automatically between two languages (Kirana, 2024). *DeepL* is included in neural machine translation (NMT), a machine translation (MT) tool that simulates the way the human brain works (Kirana et al., 2024). In addition to *DeepL*, NMT also features *Google Translate* and *Microsoft Translator* as interpreting tools (Cotelli Kureth et al., 2023; Sun, 2024). There are several advantages and disadvantages to *DeepL*, which may explain why people use it. The advantages are its ability to provide users with broad accessibility and accurate translation, and to offer an online thesaurus so users can select alternatives that are more appropriate or simpler to comprehend. Meanwhile, the disadvantages concern its ease of use; users may rely on this tool extensively. Moreover, *DeepL* might allow users to translate L1 to L2 without them comprehending what is being shown (Setiawan, 2024).

The answers to the research questions above will primarily benefit English teachers by enlightening them about how students' usage of *DeepL* affects writing lessons. Outlining the strengths and weaknesses of *DeepL* may also be informative for EFL students who are considering using it to assist them with their writing projects. Prior researchers frequently examined the application of AI to assist students' written work (Alharbi, 2023; Phan, 2023; Sujarwo, 2020). Precisely, those studies address how EFL university students employ *Google Translate* as their translation machine to use. These investigations remain limited to a singular national context, including Indonesia (Inderawati et al., 2022), Thailand (Chompurach, 2021), and Taiwan (Chang et al., 2022). This study should expand current discussions by analyzing the role of *DeepL* in writing classrooms in various countries, such as Indonesia, Japan, the Czech Republic, and China.

Research Methods

This study aims to explore how students view the use of *DeepL* in EFL writing classes. To achieve the research goal, the writer adopted a systematic literature review method by AlTwijri and Alghizzi (2024) and Rosli et al. (2024) to review fifteen articles published in peer-reviewed national and international journals relevant to the purpose of this study. The number of articles to review aligns with that of the previous systematic review studies (Amanova et al., 2025; Fernandes et al., 2023; Guo & Keles, 2025) after applying a set of selection criteria. The journal articles reviewed in this study are attached in the appendix.

In order to find patterns and similarities in the data, the writer utilized an inductive analysis approach to examine the reviewed literature. In relation to the study's research questions, the writer will permit the development of significant themes without forcing any prior beliefs (Liu, 2016; Thomas, 2006). Practically speaking, the writer read all the information on the website thoroughly several times, prepared a Google Sheet to code, and wrote down any related information on each website that could answer the research questions. The writer identified patterns and commonalities in her notes and classified them as potential insights for readers (e.g. English teachers and EFL students) of the benefits and challenges of using *DeepL* for writing assignments. The writer finally developed final themes under each of those categories as the research question.

Data Sources and Search Strategy

To select the articles to analyze in this study, the writer collected relevant journal articles from *Google Scholar*, using the following keywords: *DeepL for EFL writing class, students' perspective on DeepL in EFL writing class*, and *DeepL for EFL university writing*. *Google Scholar* supports bibliometrics by simplifying access to a wide range of credible academic materials, such as peer-reviewed articles, theses, books, patents, and conference papers (Bojadjiev et al., 2024). It is the largest collection of reliable research materials, enabling users to easily locate authoritative references for their work. This study focused on analyzing empirical research published within the last five years. The year range would inform readers about the latest research on the topic (Mazher, 2025). These keywords were developed from the titles of published journal articles relevant to the study's topic and research questions.

Some countries contributed to the research focus on the writing perspectives of EFL students on *DeepL*. The majority of studies took place in Indonesia, with contributions from other countries, such as Japan, the Czech

Republic, and China, as evidenced by journal articles related to the topic. The precise number of those countries can be seen in the graph in Figure 1.

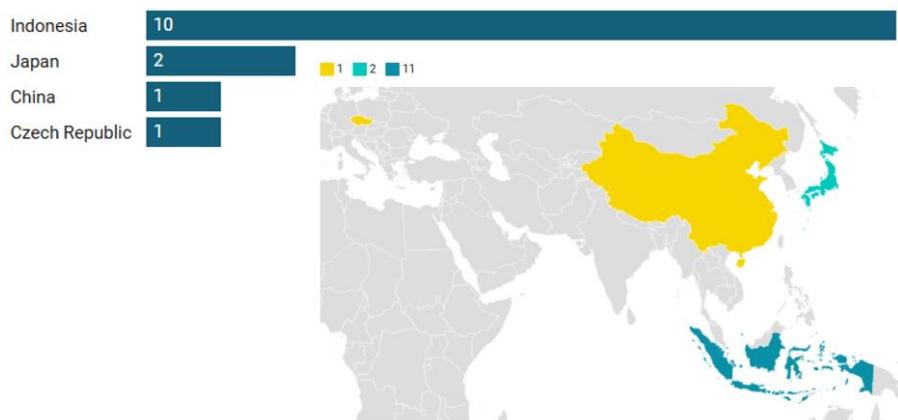


Figure 1. The Geographical Context of the Selected Articles

Note. Figure 1 above was generated by *Datawrapper*
(<https://www.datawrapper.de/>)

Inclusion and Exclusion Criteria

Articles reviewed in this study were selected by the following criteria. First, the articles should be written in English and peer-reviewed. Second, the selected articles were empirical studies discussing the students' perspective of using *DeepL* in writing classrooms in EFL contexts in higher education settings. Third, the articles were recently published between 2020 and 2025. Fourth, the articles are taken from *Google Scholar*.

Table 1. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Language	English	Non-English
Document	Journal articles	Non-journal articles
Article types	Students' perspective article	Non-students' perspective article
Content	Discussing students' perspectives of using <i>DeepL</i> in EFL writing classrooms	Non-discussing students' perspectives of using <i>DeepL</i> in EFL writing classrooms
Context of study	EFL context in higher education	Non-EFL context in higher education
Year of publication	2020-2025	Before 2020
Quality	<i>Google Scholar</i>	Non- <i>Google Scholar</i>

Results and Discussion

This section presents and discusses the findings obtained from the selected studies and is organized into two main parts. The first part focuses on the benefits, including translation accuracy, assistance in developing writing skills, and access to alternative word choices. The second part

highlights the challenges, particularly overdependence on the tool and problems translating technical or culture-related expressions.

How Do EFL Students Feel About the Advantages of Using DeepL in Their Writing?

Theme 1: DeepL Gives Accurate Translation Results

According to Amaniarsih (2025), students who were just aware of *DeepL*'s existence started to utilize it more since it felt natural, particularly when writing. The translations by *DeepL* seem more natural and are more accurate (Suryani & Fithriani, 2024). Asmara and Kembaren (2024) also noted that students no longer need to check their grammar because the translations are precise. Students believed they could finish translation tasks much quicker than they could using a manual method or another less efficient translation tool because of the accuracy outcomes (Hariroh et al., 2025). Following a study of 40 English and non-English major students at a university in Medan, Indonesia, Kembaren et al. (2024) reported that *DeepL*'s translation is repeatedly valid, builds the tool's credibility, and students' trust in the tool. In addition to translating simple sentences, *DeepL* was also capable of properly interpreting idioms (Telaumbanua et al., 2024). The findings above clearly confirm that most students chose *DeepL* to help them write better because of the accuracy of the results. However, as some students questioned the accuracy, to guarantee correctness, students are required to revise the translation results (Hariroh et al., 2025; Kirana et al., 2024).

Theme 2: DeepL Improves Users' Ability in Writing

Studies reported that students have developed in writing after using *DeepL*. It has assisted students in raising the overall quality of their works (Liang, 2025). A survey by Hariroh et al. (2025) found that through *DeepL*, students gain knowledge of new words and the structure of English. Some students proposed that *DeepL* may help them acquire new expressions and enhance their paragraph writing in terms of vocabulary and grammar (Kavanagh, 2023; Laksana & Komara, 2024). Similarly, a study by Polakova and Klimova (2023) on 16 EFL students at a university in the Czech Republic reported that the majority of students felt that *DeepL* enhanced their language skills. Additionally, *DeepL* helps students to acquire English terms and learn how to construct English sentences appropriately (Sakamoto, 2022). The results above clearly indicate that students would enhance their knowledge by utilizing *DeepL* in their writing tasks. Polakova and Klimova (2023) study results believed that the drawbacks of utilizing the machine

translation tool could include being lazy and not depending on one's own ability.

Theme 3: DeepL Offers Various Alternative Words or Synonyms

DeepL provides a useful advantage of changing words while translating. Respondents in a study by Bunga and Katemba (2024) agree that *DeepL* offers all of its capabilities and facilitates usage by changing difficult words. *DeepL* is able to select better words based on the sentence's context (Hariroh et al., 2025). One interviewee in Liang (2025) study highlighted the value of *DeepL*'s function that provides synonyms or terms which are interchangeable. In a study result by Polakova and Klimova (2023) proved that 31% of students agreed that when translating, *DeepL* offers a variety of similar words. Japanese university students in a study by Sakamoto (2022) expressed that *DeepL* is beneficial because it provides multiple choices or ideas for rephrasing expressions. According to the stated results, *DeepL* has given those who use it a number of choices to modify certain words to fit their tastes and comprehension. Even so, using too much of the technology could result in a loss of creativity and critical thinking (Bunga & Katemba, 2024).

What Challenges Do EFL Students Encounter While Using DeepL in Their Writing?

Theme 4: DeepL Causes Students Over Reliance on the Tool

Some studies reported that *DeepL* promotes dependency. Research participants in a study by Hariroh et al. (2025) also claimed that using *DeepL* negatively impacts students, saying that if we use it excessively as a translation tool, learners may grow less familiar with thinking in English. From the point of view of some students in a study by Kavanagh (2023), *DeepL* could be used to help with challenging vocabulary and expressions to some extent. However, they believed that it shouldn't be depended on because it could be considered cheating. Correspondingly, in a survey of 30 non-English major students at a university in China, Liang (2025) reported that participants voiced worries that excessive reliance could hinder the acquisition of valuable linguistic abilities. Some also mentioned that they worried that the tool was "a little too helpful," fearing it would cause them to rely on *DeepL* for translation instead of thinking through the English text themselves (Sakamoto, 2022). The results above certainly demonstrate that excessive *DeepL* use may make users feel overly attached and prevent them from developing further independently. Moreover, in order to avoid this

possible over-reliance on technology, it is crucial to make sure pupils acquire their own language skills through an integrated educational approach (Asmara & Kembaren, 2024).

Theme 5: DeepL Struggles with Translating Specialized Items

Studies also reported that when translating complex things, *DeepL* had troubles (Kirana et al., 2024). Some students complained that *DeepL*'s window was less user-friendly and sometimes misunderstood terms that were culturally different (Amaniarsh, 2025). Asmara and Kembaren (2024) agreed that *DeepL* Translator can struggle with subtle meanings and common sayings, which may lower the quality of its translations for complicated texts. Participants faced challenges because the tool made errors with culturally specific terms and idiomatic expressions (Liang, 2025). Additionally, in a study by Fadhillah and Irawati (2024), a student stated that although machine translation has advanced, it remains important to acknowledge that these tools may not fully capture cultural references, everyday expressions, and linguistic subtlety. The results above certainly demonstrate that *DeepL* consistently has difficulty handling complicated texts, especially when dealing with idiomatic expressions, culturally specific words, and minor language nuances. That is why, Sidiq and Syafryadin (2024) mentioned that some students sought help from their peers to verify the *DeepL* results. Özmat and Akkoyunlu (2024) further notes that while machine translation emphasizes quickness and efficiency, humans are still crucial for handling emotional and cultural context.

Conclusion

In summary, the research has provided insight into how EFL students feel about the advantages of using *DeepL* in their writing and the challenges they encounter while using *DeepL* in their writing. The research findings highlight certain similarities. First, due to its natural, accurate, and efficient translation, *DeepL* is a trusted writing tool for students, though minor revisions are sometimes necessary. Second, while *DeepL* is shown to enhance students' language skills like vocabulary and grammar, its use also carries the risk of promoting overreliance and hindering individual learning. Third, *DeepL* assists users by suggesting alternative words and expressions, but there is a potential drawback in the development of creative and critical writing skills. Fourth, research warns that excessive dependence on *DeepL* can inhibit the growth of independent language skills, with a concern that needs a balanced integration into learning. Lastly, studies indicate that *DeepL*

has limitations with linguistic and cultural complexity, making human verification essential.

This study has a limitation. The primary constraint was finding articles to analyze that met all the requirements outlined in Table 2. To make this easier in the future, researchers could expand their search to include a broader range of academic databases (e.g. *Academia.edu*, *Ebsco*, *ResearchGate*, *ScienceDirect*, or *Web of Science*). To validate the literature that has been discovered, future researchers may also conduct interviews with experts to comment on their literature review analysis results. Additionally, future researchers could consider broadening the scope of literature beyond journal articles to include other scholarly works, such as books and theses, for a more comprehensive analysis.

Moreover, for the purpose of further exploring the current work, the researcher would like to provide some guiding questions: What would be the long-term impact of utilizing *DeepL* for students' independent writing skills? What methods can teachers use to help students become less dependent on *DeepL*? What other AI translation tools are comparable to *DeepL*? Would the benefits and challenges of using *DeepL* for high school students differ from those of university students? In closing, the researcher wishes that this study encourages other EFL students, teachers, or readers to think critically about the teaching and learning process with the best and wisest use of *DeepL*.

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Appendix

The Articles Reviewed in This Study				
Author(s) and year	Article title	Journal	Research goal	Context and participants
Amaniarsih (2025)	A comparative study of Google Translate and DeepL in translating Indonesian to English among informatics engineering students at Universitas Potensi Utama Medan	Journal of English and English Education	A quantitative and qualitative study aiming to compare the accuracy and effectiveness of Google Translate and DeepL in translating Indonesian texts into English, focusing on Informatics Engineering students at Universitas Potensi Utama	40 undergraduate students from the Informatics Engineering Department at university in Medan, Indonesia
Asmara and Kembaren (2024)	Student's perception towards the use of DeepL Translator in writing thesis or journal for English education students	IJLECR (International Journal of Language Education and Cultural Review)	A qualitative study aiming to discuss the use of the DeepL Translator application in writing a thesis or journal of English students	24 final semester English students at a university in North Sumatra, Indonesia
Bunga and Katemba (2024)	Comparing translation quality: Google translate vs DeepL for foreign language to English	EDUSAINTEK: Jurnal Pendidikan, Sains dan Teknologi	A qualitative study examining how students from the English Education Department and Philosophy Department at Indonesian Adventist University evaluate the use of DeepL and Google Translate and the resulting translations	85 English Education and also Philosophy students at a university in Indonesia
Fadhillah and Irawati (2024)	The use of translation tool	Journal of English	A qualitative study finding	Students of the fourth semester

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	in argumentative writing process	Education, Linguistics, and Literature (JEELL)	out how English students use translation tools in the process of argumentative writing	of English Language Department in Jombang, Indonesia
Hariroh et al. (2025)	Analysis of the use of the DeepL application as an alternative media for translating English students' academic assignments	Professional Journal of English Education (PROJECT)	A qualitative-descriptive study analyzing the use of the DeepL as an alternative media for translating academic assignments of English language students	6 EFL students at a university in Indonesia
Kavanagh (2023)	Neural machine translation in an EGAP course: Does it make a difference?	Data Science in Collaboration	A pilot study investigating whether DeepL can improve a student's writing in terms of readability, lexical diversity and sophistication	33 students enrolled in an EGAP Integrated Academic Reading and Writing course at a university in Japan
Kembaren et al. (2024)	Students' perception of using translate tools in their assignment	Jurnal Pendidikan Tambusai	A qualitative description study investigating the preferences and reasons behind the choices of 40 university students majoring in English and non-English majors	40 English and non-English major students at a university in Medan, Indonesia
Kirana et al. (2024)	The influence of DeepL Translator on EFL students' writing	Jurnal Ilmu Sosial, Humaniora dan Seni (JISHS)	A quantitative and qualitative studies examining the role of DeepL Translator in the language learning process, especially in writing revision	27 second semester English Language Education students at a university in North Sumatra, Indonesia
Laksana and	Indonesian EFL	Journal of	A quantitative	293 EFL

Author(s) and year	Article title	Journal	Research goal	Context and participants
Komara (2024)	students' perceptions of DeepL machine translation tool: Utilization, advantages, and disadvantages	Language and Literature Studies	and qualitative studies investigating the perceptions and experiences of Indonesian students learning English as a Foreign Language (EFL) regarding the use of DeepL Machine Translation	learners from various educational levels in Indonesia
Liang (2025)	The impact of using DeepL Translator on Chinese EFL students' story writing	Journal of China Computer-Assisted Language Learning	A quantitative and qualitative research investigating the impact of using DeepL Translator, a cutting-edge AI-assisted tool, on Chinese EFL students' story writing, evaluating both form and content, and analyzing students' attitudes toward these tools	30 non-English major students at a university in China
Polakova and Klimova (2023)	Using DeepL translator in learning English as an applied foreign language – An empirical pilot study	Heliyon	A qualitative study investigating the usefulness of machine translation, specifically DeepL Translator, in the second language acquisition process, since it has a great potential to transform foreign language education	16 EFL students at a university in the Czech Republic
Sakamoto (2022)	Japanese university	CiNii	A qualitative research study	111 university students at a

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	students' reflections on machine translation used as part of an English presentation activity		exploring how those students perceived NMT (DeepL) after using it to prepare their English manuscript for an English presentation	university in Japan
Sidiq and Syafryadin (2024)	Students' perception of using DeepL for translating English text	Eltin Journal: Journal of English Language Teaching in Indonesia	A descriptive quantitative study elucidating students' perspectives about the use of DeepL for translation purposes	26 EFL students at a university in Bengkulu, Indonesia
Suryani and Fithriani (2024)	Artificial intelligence tools in writing class: Students' preferences and lecturers' perceptions	Eltin Journal: Journal of English Language Teaching in Indonesia	A qualitative study exploring university students' preferences in using AI for writing and investigating lecturers' perceptions regarding the use of artificial intelligence tools in EFL writing classes	10 EFL students and 3 lecturers from 3 different universities in Indonesia
Telaumbanua et al. (2024)	Analysis of two translation applications: Why is DeepL Translate more accurate than Google Translate?	Journal of Artificial Intelligence and Engineering Applications (JAIEA)	A qualitative study analyzing the accuracy of translation results provided by DeepL Translation and Google Translation, specifically in translating English to Indonesian	10 EFL students at a university in Nias, Indonesia