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THE EFFECT OF USING DEEPL ON THE WRITING SKILLS OF 11TH GRADE STUDENTS IN HOSPITALITY MAJOR AT SMK NEGERI 1 SINGARAJA

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ABSTRACT

This research aims to determine the effect of using DeepL on EFL students' writing skills. An explanatory sequential mixed-methods design with quasi experimental and open-ended interviews was used in this research. Through purposive sampling, seventy-one EFL students from North Bali, Indonesia participated in the quasi-experimental phase, with ten additional students volunteering for interview sessions. The writing test data were analyzed using descriptive and inferential analysis, while the interview transcripts were subjected to Interactive Model analysis. The research results show that there is a medium effect (0.52) of using DeepL on EFL students' writing skills. The interactive model analysis revealed students' positive responses to DeepL features such as autocorrect and alternative word suggestions, which facilitated improved grammatical accuracy, an enjoyable learning experience, increased language proficiency, and increased self-confidence. However, there are challenges such as connectivity issues and unfamiliarity with the application that hinder its effectiveness. In conclusion, DeepL shows potential as a transformative tool in language acquisition and writing instruction, although there are certain obstacles that need to be overcome in order to achieve optimal effectiveness.

Keywords: Writing skill, EFL, Artificial Intelligence, DeepL

INTRODUCTION

English is an absolutely crucial language in education worldwide. It is taught for twelve years in primary school and for an additional three years at the university level (Nishanthi, 2018). Even in countries where English is not the native language, it is an

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essential part of the curriculum, providing the foundation for acquiring vital language skills such as writing, listening, speaking, and reading (Harmer, 2004). Writing is essential and vital to this educational system. In the language they are learning, students must be able to precisely and effectively communicate concepts in addition to stringing words together (Brown, 2007). It is particularly crucial that writing instruction be prioritized for those who are studying English as a foreign language (EFL). It helps students retain what they have learnt and provides them with a clear framework for creating sentences (Harmer, 2001).

EFL students must master English writing, particularly those engaged in English as a foreign language study. The importance of English proficiency is highlighted in light of Industry 4.0 (Moses & Mohamad, 2019), where effective communication skills are increasingly vital. EFL learners often face challenges in their writing, such as grammar and vocabulary struggles, limited practice opportunities, and lack of confidence (Muamaroh et al., 2020). However, with dedication and practice, EFL students can overcome these obstacles and improve proficiency in English writing. Ariyanti and Fitriana (2017) identify several hurdles in writing, including grammar, cohesion, coherence, paragraph organization, diction, and spelling errors. Inayah and Putri Nanda (2016) noted that high school EFL students primarily struggle with grammar and language usage, particularly in constructing grammatically correct sentences. Even though hospitality students at vocational high schools demonstrate adequate ability to express ideas related to English language services, some still face challenges in applying appropriate competence and grammar (Naima et al., 2024). Based on preliminary interviews at SMK Negeri 1 Singaraja with 11th grade students in the hospitality major, several challenges were found that inhibited their participation in learning. Students often experience lack of confidence and anxiety during writing activities, resulting from concerns about grammatical accuracy and confusion in the use of vocabulary (Nisa et al., 2020). Additionally, hospitality students struggle with poor writing scores due to low self-efficacy in writing. Many students expressed uncertainty in spelling correctly, lacked confidence in articulating their thoughts in writing, and felt overly apprehensive about writing. Documentary analysis further revealed difficulties among students in organizing and using writing mechanisms, including difficulties with grammatical rules and the complexity of writing in a second language. Specialized roles such as front desk clerks, hospitality marketers, and room service managers require strong writing skills for effective communication within the industry (Helmie J; Suganda Dadang; Heriyanto, 2020). Writing skills are crucial for crafting presentations and reports, skills emphasized by graduates in the hospitality industry (Kaharuddin et al., 2019). It is noteworthy that EFL students less frequently encounter content-related challenges, such as integrating supporting details and ideas. As educators in vocational education, acknowledging these difficulties and providing

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targeted assistance can significantly aid students in mastering the necessary writing skills for successful careers in hospitality.

Education in the 21st century is becoming more contemporary and digital, including literacies, knowledge, skills, attitudes, and technology improvements. As researcher, he is sure that we can provide students with the skills and tools they need to succeed in this new era of education. As a result, updated strategies for EFL writing teaching are required to keep up with the rapid innovations in 21st century education (Arta et al., 2019). According to Wiraningsih and Santosa (2020), EFL teachers employ a wide range of task transformation strategies and approaches. These include learning strategies, collaboration tactics, planning, and effective time management. Furthermore, Santosa et al. (2020) recommend for the use of smartphone applications specifically designed for English language acquisition. According to Apsari and Parmawati (2022), utilizing blended learning via smartphones or internet connections can greatly improve students' writing abilities and foster a greater interest in the writing process. This approach has been proven to be highly effective.

The development of technology, especially in Artificial Intelligence (AI), is transforming language learning methods. AI, introduced as a new technology in 2021, imitates human capabilities and is rapidly evolving. With AI, language learning is becoming more efficient and effective, providing learners with personalized and adaptive experiences. This technology is changing the way people learn languages, and the possibilities are endless. AI technologies are rapidly altering the educational environment, affecting how people live, work, and learn. Vera (2023) agrees that technology trends have had a significant impact. It is clear that AI is altering education and improving students' learning experiences. According to Chen et al. (2020), artificial intelligence has been more widely acknowledged and used in education, providing innovative solutions to improve teaching and learning.

Artificial intelligence is a crucial part of the Fourth Industrial Revolution. Accelerating the learning process is vital for adapting to technological advancements. Its ability to increase learning outcomes and aid people in meeting their educational goals is widely recognized. AI is becoming an increasingly popular language acquisition tool, offering personalized, interactive, and adaptable learning experiences. Overall, AI is revolutionizing language learning and enriching the educational experience for everybody involved. According to Rusmiyanto et al. (2023), AI-based apps help both teachers and students in EFL courses. Sumakul et al. (2022) conducted study on this topic. They showed that using AI technologies considerably improved the English writing performance of students in the experimental group. This resulted in higher self-efficacy, self-regulated learning, and a considerable reduction in cognitive

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load. The study underlines the benefits of using AI writing tools to increase the quality of EFL students' writing. Marzuki et al. (2023) conducted a study discovered that AI technologies are particularly beneficial for improving students' writing abilities. This study provides considerable data that demonstrate the benefits of applying AI approaches.

Technologies based on artificial intelligence, such as AI-powered translation, have arisen to assist students with their writing skills. They use deep learning technology based on neural machine translation (NMT) systems (Schmidt, 2022). AI-based NMT platforms like DeepL and Google Translate (GT) make significant advances to language learning. DeepL includes a variety of features, such as speech recognition and written text translation between languages, as well as advanced writing suggestions (Ata & Debreli, 2021). Both platforms provide comparable accuracy, but DeepL stands out due to its additional features for improving creative writing.It is critical to avoid using machine translation, such as Google Translate, as it may result in careless and unproductive writing. Students typically translate word for word, producing ambiguous and incomprehensible content (Nurlela et al., 2021). DeepL's powerful capabilities allow writers to safely create high-quality content that accurately communicates their intended message. According to Polakova and Klimova's (2023) research, DeepL Translator has the potential to alter foreign language education by dramatically enhancing language acquisition through more accurate and nuanced translations, which will lead to better writing skills. This outcome builds on earlier studies and highlights DeepL Translator's tremendous potential in language learning techniques. Overall, DeepL Translator is a valuable resource for both language learners and educators.

Recent research has confidently focused on AI-powered platforms such as DeepL. To begin, Hidalgo-Ternero (2020) used corpus text analysis to evaluate the effectiveness of two freely available open-source neural machine translation systems, Google Translate and DeepL. Second, Fitria (2023) sought to examine errors in translation outputs from Google Translate, Microsoft Translator, and DeepL Translator when translating Indonesian texts into English, taking into account the importance of human involvement in machine translation. Thirdly, Rescigno and Monti (2023) examined gender bias in translations produced by Google Translate and DeepL in English, Italian, and German. Hereafter, Bunga and Katemba (2024) aimed to evaluate student perceptions of DeepL and Google Translate, focusing on the accuracy and clarity of the translations. Next, Sidiq and Syafryadin (2024) aimed to investigate the influence of DeepL on students' dictionary usage habits and grammar understanding in the context of English as a Foreign Language (EFL). Furthermore, Birdsell (2022) aimed to determine how DeepL affects students' essay writing and how teachers assess

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the quality of these essays. Furthermore, Polakova and Klimova (2023) searched for the efficacy of DeepL Translator in improving language proficiency during second language acquisition. Finally, Klimkowski (2023) wanted to talk about DeepL's role in the development of language and communication skills at work. While the highlighted research emphasizes the potential benefits of incorporating DeepL into EFL classrooms, it is important to note the lack of literature on DeepL's specific impact on students' writing competence, particularly in the Indonesian educational setting. Furthermore, existing research primarily focuses on DeepL's impact on teachers' assessment methodologies and its comparison to GT. DeepL provides a number of tools, including DeepL Translation and DeepL Write, that can be confidently used for this purpose. This study aims to investigate the benefits of utilizing AI-based translation and writing tools on the DeepL platform to enhance the writing skills of EFL students. By exploring the implementation of AI-driven translation and writing tools within the DeepL platform, this research provides valuable insights into optimizing NMT utilization in educational contexts. It examines DeepL's effect on students' writing skills, addressing a significant gap in current literature, and evaluates the effectiveness of DeepL in enhancing students' writing skills through innovative methodologies and customized settings. Educators can confidently learn about the benefits and best practices of integrating AI-based translation and writing tools into EFL instruction from the findings.

METHOD

This study confidently examines the effect of using DeepL on students' writing skills at SMKN 1 Singaraja. Employing an explanatory sequential mixed-methods design with quasi-experimental methods and open-ended interviews, the research initially gathers and analyzes quantitative data followed by qualitative data for deeper insights (Creswell & Creswell, 2018). This approach effectively mitigates potential weaknesses of each method individually. The study aims to achieve methodological rigor and data validation through triangulation of data sources. Furthermore, by comparing post-test scores between experimental and control groups and supplementing quantitative data with qualitative insights from interviews with experimental group students, the research seeks diverse perspectives and data validation. The inclusion of varied responses aims to provide a comprehensive profile of students' learning approaches in the investigated context, thereby enhancing the reliability and validity of research instruments. The findings from data analysis are robustly discussed to draw compelling conclusions. Through data triangulation, the study strengthens the validity of findings and offers more dependable responses to the research inquiries.

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In this study, 145 students from the 11th grade hospitality major participated. They were divided into two groups studying interesting topics within a research-based learning framework. Only one group was supported by DeepL and the other uses Google Translate as a flipped learning tool. The instruments used included writing tests and interview guidelines developed by Churchill et al. (2013) for student participants. The writing tests were then analyzed using a rubric developed by Jacobs et al. (1981), allowing researchers to classify differences between the use of DeepL and students' writing abilities. Additionally, semi-structured interviews were conducted with ten voluntary students. Data from the writing tests were analyzed quantitatively using descriptive and inferential statistical methods, while data from the interviews were analyzed using an interactive analysis model as described by Miles et al. (2014). The data collection process included pre-tests, the determination of experimental and control groups, the administration of treatment to the sample groups, post-tests, and semi-structured interviews. It is important to note that the pre-test and post-test procedures were conducted in English, while the interviews were conducted in Bahasa Indonesia, the students' native language. After data collection, analysis was performed using the Mann-Whitney test to evaluate the effectiveness of instructional learning. Following that, data from the interviews will be transcribed and analyzed using qualitative methods.

Findings and Discussion

Findings

There are two research objectives formulated in this study. The first is to determine the effect of using DeepL on students' writing skills and the second objective is to know students' responses to using it in their writing process.

The Effect of Using DeepL on Students' Writing Skills

Descriptive and inferential statistics were used to carefully analyze the post-test writing samples collected from both the experimental and control groups, using SPSS version 26 to thoroughly examine the results.

Table 1. The Descriptive Analysis of Post-Test

		Experimental Group	Control Group
N	Valid	34	37
	Missing	0	0
Mean		75.74	71.32
Median		75.00	70.00
Mode		70.00	70.00
Std. Deviation		7.894	8.987

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Variance	62.322	80.771
Range	35	30
Minimum	60	60
Maximum	95	90

The descriptive statistics provide a basic measure of the sample itself, summarizing and describing its characteristics without making predictions about a larger population. To gain insight into the central tendency and dispersion of the data, we confidently analyzed measures such as mean, median, mode, standard deviation, variance, range, minimum, and maximum. The descriptive analysis of the post-test results for both groups is presented in Table 9. It is notable that the experimental group demonstrated superior performance relative to the control group, with a mean score of 75.74 compared to 71.32. This outcome provides a clear indication of the effectiveness of the proposed approach. Thus, this descriptive statistical analysis provides a clear picture of the structure and distribution of the data, and helps identify patterns and differences between the experimental and control groups in this study

As the next steps in data analysis, Inferential statistics were used to draw conclusions and predict outcomes based on collected data. After collecting data from a subset, inferential statistics allows researchers to generalize findings to the broader population from which the sample was selected. The use of inferential statistics is evident in the results of hypothesis testing (Zhang et al., 2018). In this study, a normality test was conducted on data from the experimental and control groups before and after treatment using the Shapiro-Wilk test which indicated that the data before treatment was normally distributed, but not after treatment. Additionally, a homogeneity test was performed twice, before and after treatment. The results indicate that the data collected prior to treatment were homogeneous, whereas the data collected subsequent to treatment remained homogeneous. Nonparametric data was confirmed with normality tests less than 0.05 and homogeneity greater than 0.05. The researchers then selected the Mann-Whitney U test for hypothesis testing. As described by Sheskin (2000), this nonparametric technique is used to compare two independent groups of paired data from samples that are not normally distributed or lack homogeneity of variance. It serves as an alternative to the t-test when the assumptions of the t-test are not met.

Table 22. Mann-Whitney U Result

Test Statistics[a]	
	Post Test Score

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Mann-Whitney U	454.000
Wilcoxon W	1157.000
Z	-2.051
Asymp. Sig. (2-tailed)	0.040
a. Grouping Variable: Group	

Table 2 shows that the two-tailed significance is less than 0.05, it means there is an effect of DeepL on students' writing skills. Therefore, researchers must also assess the effect size that contributed to this difference. This quantification of experimental effects is known as effect size. J. Cohen (1988) states that the stronger the relationship between variables, the larger the effect size. Thus, it is imperative for researchers to check the effect size, which can be calculated by using the tool provided at https://lbecker.uccs.edu/.

When conducting an effect size test, Cohen's d is considered appropriate for comparing two groups with comparable standard deviations and sample sizes. To calculate Cohen's d and the effect size correlation, use the means and standard deviations of the two groups.

Figure 1. Result of Effect Size

Group 1	Group 2
M_1	M_2
75.74	71.32
SD_1	SD_2
7.894	8.987
Compute	
Reset	
Cohen's d	effect-size r
0.5225714382098763	0.2527988599930757

Based on the results presented in Figure 1, the calculated effect size is set at 0.52.
Table 3. Effect Size Level

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Effect Size	Level
$0.20 \leq d \leq 0.50$	Small
$0.50 \leq d \leq 0.80$	Medium
$d \geq 0.80$	Large

With reference to the classifications shown in Table 7, this value falls within the category of a medium effect size. Essentially, this suggests that the effect of using DeepL on the writing skill of students at SMK N 1 Singaraja is medium.

Students' Responses to Using DeepL in Their Writing Process

The researcher presents the data acquired through interviews with students to gouge their perspectives on the implementation of DeepL. The interviews were strategically conducted following the completion of the post-test, providing an opportune moment for students to reflect on their experiences. Students were asked five questions about how DeepL affects their classroom. Specifically, the interviews were conducted in Bahasa Indonesia to ensure clear communication and minimize potential misunderstandings between the participants and the researcher. The participants selected for the interviews were drawn from the experimental group, further enhancing the relevance and specificity of the insights gathered. In this study, 10 students were selected to conduct the interviews.

In this initial study, participants were asked to what extent DeepL provided useful resources for English language learning, especially in improving their writing skills. In this Resources dimension, participants expressed the positive effect on their learning experience. They considered DeepL to be a valuable resource for their writing activity, especially in expanding vocabulary and improving sentence structure. This tool's ability to present alternative word choices and perform automatic correction is considered very useful. *One of the students said:*
    "............DeepL able to teach me new vocabulary"-S7
S1 added that the alternative feature is also a useful tool for enriching vocabulary,
    "Sure, because I can learn a lot of new vocabulary. There, there are what are called alternatives or we are recommended other words that can be used"-S1
S9 added more about the two English versions provided by DeepL.
    "Absolutely, I get to know a lot of new vocabulary in both American and British English versions"-S9

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Furthermore, S10 added,

> *"Certainly, because as we know, English has two types: American and British. So here, I can learn different types of vocabulary"*-S10

In the same line, S8 also added in the case of a synonym of alternative features.

> *"Certainly, because I can learn many synonyms for a word"*-S8

Apart from increasing vocabulary, S2 also argued other positive effect.

> *"Sure, because I haven't understood how to write correctly like adding vocabulary and how to properly construct sentences, use words, and also grammar"*-S2

Furthermore, S5 also has the same one.

> *"Absolutely, because DeepL has a system that's used to automatically correct sentences. From there, I can learn how to properly structure sentences"*-S5

The results indicate that DeepL can be a useful tool for English as a Foreign Language students, particularly in regard to vocabulary enrichment and sentence organization enhancement.

Building upon the positive impact of DeepL as a resource, the "Activities" dimension explored how the tool influenced students' learning experiences. Here is a theme of enjoyable learning. Students reported a pleasant learning experience when using DeepL. They appreciate the efficiency and convenience of this tool, which allows them to carry out their writing activities more independently. Students generally found the activities enjoyable and conducive to their learning. Technological innovation can help students become less dependent on their studies. The next question is whether students agree that using DeepL in their learning activities can make their learning activities more efficient and interesting. One of the students stated:

> *"I agree, because DeepL provides many alternatives that can be used, unlike Google Translate which only outputs what we want to translate"*-S5

S1 was inserted,

> *"Yes, I agree, as we know that DeepL is the same as Google Translate. However, here I get automatic correction that can make learning more effective"*-S1

S9 also supported the following statement,

> *"Strongly agree because this is a new application that is more accurate than Google Translate, I also become more motivated in following the learning"*-S9

DeepL offers word alternatives and autocorrect that are distinct from those provided by Google Translate. Its accuracy also enhances student motivation in learning. S8 also expresses a similar opinion, stating:

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> *"I agree, ... the grammar correction is also very helpful for me to improve my writing and speed up the writing process"*-S8

S4 also added the following,

> *"I agree, I think learning becomes easier and the writing process becomes shorter"*-S4

Its accuracy in providing grammar corrections also really helps students improve their writing and speed up the writing process. One of the students said:

> *"I agree, because DeepL is easier because the sentences or words that can be used are already provided, so I don't worry anymore"*-S7

These findings provide an interesting picture. Students reported improvements in learning efficiency and enjoyment when using DeepL. They highly appreciate the tool's convenience and ability to simplify their writing activities, thereby encouraging greater learner independence. This aligns with the idea that technology can empower students to take control of their learning journey. In addition to efficiency, students consistently emphasized the enjoyment they experienced during DeepL-assisted learning activities. Although device-related challenges occasionally arise, the overall experience remains positive and engaging. This positive response shows that DeepL can create a fun and effective learning environment, which ultimately promotes desired learning outcomes such as improved English writing skills.

This positive effect on learning efficiency and enjoyment aligns perfectly with the concept of autonomous learning. As highlighted earlier, technology can empower students to take ownership of their learning journey. DeepL's features, particularly automatic correction, and vocabulary suggestions, seem to facilitate this process. Furthermore, the Support dimension delves into how DeepL fosters students' confidence in their writing skills. Participants consistently reported a significant boost in self-assurance. They attributed this positive shift to DeepL's features, particularly the automatic correction function and the wide range of vocabulary alternatives. These features ease concerns regarding grammar and word choice, allowing students to tackle writing tasks with greater confidence. One student eloquently captured this sentiment, stated:

> *"Yes, it was helpful, because it helped me to choose the right words and also corrected the grammar of my writing which made me more confident"*-S1

S2 also added,

> *"It was helpful, because I was not proficient in English, it helped me to be more confident in writing"*-S2

Additionally, S6 asserted that,

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> *"DeepL can help me improve my writing which makes me more confident in my writing"*-S6

Furthermore, S4 is enhanced by the incorporation of DeepL, he asserted,

> *"Very helpful, when learning I can use DeepL to help translate vocabulary and I am also very helpful with the automatic correction system, so the results are more accurate. In addition, by using DeepL I become more confident in my writing"*-S4

This study provides insight into an interesting aspect of DeepL's influence: its impact on students' self-perceptions as writers. Participant testimonials consistently show that regular use of DeepL is associated with increased confidence when writing assignments. These findings challenge the traditional view of self-confidence as simply a psychological construct. This research shows that technology like DeepL can play a crucial role in strengthening students' confidence in their writing skills. In conclusion, these findings not only validate the effectiveness of DeepL as a learning tool but also offer a new perspective on the technology's potential to foster students' self-confidence in the context of teaching writing.

The outcomes of this study demonstrate that DeepL plays a crucial role in supporting English as a Foreign Language (EFL) learners' writing journeys. Many students encounter challenges in mastering grammar and vocabulary, which can hinder their ability to communicate effectively. However, DeepL emerges as a valuable resource, offering a reliable solution to these linguistic challenges. S7 stated:

> *"I am quite helped by the existence of DeepL because it can improve Grammar in my writing, actually I am very lacking in understanding grammar"*-S7

S2 echoed this sentiment, stated:

> *"Yes, I was helped by DeepL to solve the grammar problem"*-S2

In addition to correcting grammar, DeepL also assists learners in expanding their vocabulary. S8 articulated this aspect poignantly, emphasizing how DeepL's vocabulary database empowered them to explore a wider range of expressions and choose the most appropriate words to convey their intended meaning.

> *"There are some difficulties that I usually face in writing English, namely grammar and vocabulary. DeepL really helps me to be more confident that the grammar and vocabulary I use are appropriate"*-S8

S1 also emphasized,

> *"......... As we know that vocabulary is very important for us to make capital in writing, by using DeepL I became more familiar with many vocabulary words that have the same meaning, so I can choose which vocabulary is the right one to use"*-S1

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Concerning grammar and vocabulary selection, DeepL is more than just a translation tool, it is also a critical training ground for students. One of the students stated that using DeepL strengthened their ability to think critically because they had to choose alternatives that fit the context of the sentence, he said:

> *"The use of DeepL really helps me to check my grammar, sentences, vocabulary, and it helps me to practice my critical thinking in choosing the right alternatives in the context of my sentence"*-S4

S5 also added a statement supporting this opinion, he said:

> *"It helped me to check my grammar and practice critical thinking when I choose the right alternative to use"*-S5

In essence, DeepL's influence exceed technical support. It fosters critical thinking, builds writing confidence, and empowers EFL learners to navigate the complexities of English with a newfound sense of autonomy and self-assurance.

In the final phase of the investigation, the researcher sought to determine whether DeepL could provide students with valuable experiences that would enhance their writing skills. In the Evaluation dimension, participants highlighted the challenges associated with their lack of familiarity with DeepL. Some individuals encountered difficulties initially due to a lack of understanding of the tool's features and functionality. One student offered insight with the following commented:

> *"DeepL helps me in writing English, but I am still unfamiliar with its features. ...."*-S2

Additionally, S4 noted that there is a tendency in the utilization of tools in DeepL.

> *"........... It's actually I'm still not familiar with the features of DeepL"*-S4

S8's experience further exemplified this challenge, highlighting their satisfaction with DeepL's grammar correction but also their struggles with applying the tool due to its novelty.

> *"I am very satisfied with this automatic grammar correction from DeepL but I am also still not fluent in applying this application because it is the first time using it"*-S8

S5 shared similar experiences, citing their unfamiliarity with the tool,

> *"There are experiences that do not support me in using DeepL, namely the device I use is inadequate because it often freezes. I am also still not familiar with the application because this is the first time I know and use DeepL"*-S5

These findings underscore the relevance of providing proper instruction and assistance to help students overcome the initial learning process and effectively utilize DeepL features. Insufficient device capabilities emerged as a recurring theme,

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hindering learners' progress and impeding their ability to fully harness DeepL's potential. S3 specifically mentioned the limitations of their device,

> *"..................., the device is less supportive for me to use DeepL"*-S3

This argument was echoed by S9, who highlighted the inadequacy of their mobile phone as a barrier to effective learning, stated:

> "................. In addition, the inadequate mobile phone factor also inhibits my writing learning"-S9

S1 further emphasized the challenge of device limitations,

> *"............In addition, another obstacle I experienced was an inadequate device"*-S1

Therefore, there is an urgent need to provide better access to adequate devices to ensure that students can access and make optimal use of DeepL.

The qualitative analysis underlines the positive responses of DeepL on students' learning experiences in EFL writing. This tool serves as a valuable resource, providing support and increasing students' confidence in their writing skills. Despite challenges related to device dependency and unfamiliarity, participants recognized the potential of DeepL to facilitate meaningful learning experiences in EFL contexts. These insights emphasize the importance of considering multiple dimensions of resource utilization, activity engagement, support provision, and evaluation when integrating AI tools such as DeepL into language learning environments.

Discussion

A statistical analysis of the data indicates that the use of DeepL has an effect on the writing skills of grade 11th students in the hospitality major. In addition, the students expressed positive responses to the utilization of DeepL, although several inhibiting factors were also identified. A review of the statistical data revealed an effect of using DeepL on students' writing skills, as evidenced through descriptive and inferential analysis. The calculated effect size falls into the medium category. This finding is reinforced by several studies, such as those conducted by Bunga and Katemba (2024); Fitria (2023); Rescigno and Monti (2023), which highlight DeepL's superiority in translation accuracy, readability, and handling complexity compared to other tools such as GT. Furthermore, research by Birdsell (2022); Polakova and Klimova (2023) on the impact of DeepL on writing quality and language acquisition shows positive results. Teachers were able to identify the use of DeepL and attribute improvements in writing quality to its use, while the improvements in language proficiency were also observed. Hidalgo-Ternero (2020) said that DeepL assists both language learners and teachers in enhancing language learning and teaching methods, highlighted the transformative role of technology in language acquisition. Finally, Klimkowski (2023) explored the professional applications of DeepL in improving

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language and communication skills, highlighting the tool's potential in facilitating effective foreign language communication in professional environments. These studies clearly support the findings about the effects of using DeepL on writing skills, confirming its important role in educational progress especially in English language learning.

Apart from finding that the use of DeepL had an effect on students' writing skills, researchers also investigated students' responses to the use of DeepL in writing as a second finding. This research involved interviews with students used RASE model. Interview results show that DeepL helps stimulate positive responses from students towards its use in the writing process. However, apart from positive responses, there are also several inhibiting factors, which influence students' responses and acceptance of using DeepL in writing contexts.

In the context of the Resources dimension, these findings are consistent with research by Zulfa et al. (2023), which shows that the use of artificial intelligence-based tools can accelerate the writing process and increase its accuracy, while reducing the risk of plagiarism. Interview results showing the positive impact of using DeepL, especially in expanding students' vocabulary and improving sentence structure, are concrete evidence that strengthens the research findings. Polakova and Klimova (2023) also noted that DeepL provides a wider range of verb and translates complex texts, in addition to various other differences. Thus, not only was it found that DeepL played a role in improving students' writing skills, but it was also proven to support the resource aspect in the development of writing proficiency. The agreement of these findings with previous research indicates the great potential of artificial intelligence-based tools, such as DeepL, in providing benefits in educational contexts, especially in enriching the writing learning process with sophisticated and effective resources.

In the Activity dimension, the theme of enjoyable learning experiences was found. Findings from the interviews are in line with research by Polakova and Klimova (2023), who found improvements in language proficiency from using DeepL. This shows consistency among students' positive experiences of using DeepL in learning activities and empirical research results showing increased language proficiency from using the tool. Thus, it is not only seen that DeepL makes a positive contribution to students' learning experience, but it is also proven to increase language proficiency, indicating the importance of the activity aspect in enriching the learning process with the use of supporting technology.

In the Support dimension, the theme of increased self-confidence was found. Interview results showing that DeepL increases students' confidence in their writing skills are supported by research by Liu et al. (2021), who highlight that AI-supported

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learning approaches may enhance students' writing performance as well as increase self-confidence and organized learning. This reinforces findings from interviews that DeepL helps students feel more confident in their writing. Apart from its impact on self-confidence, DeepL also plays a crucial part in supporting students' writing journey by overcoming grammar and vocabulary challenges. Students noted that this tool helped them overcome difficulties in understanding grammatical rules and expanding their vocabulary. DeepL's features, such as autocorrect and vocabulary suggestions, are considered crucial in building confidence in writing and cultivating critical thinking skills.

However, on the Evaluation dimension side, the challenges identified in the interviews, such as initial difficulties unfamiliarity and device limitations, are consistent with findings from research by Murtisari et al. (2019). They said that with the presence of MT, students with also need to be helped and supervised to improve their language learning. This study highlighted the challenges students face in adopting MT based AI in language learning, highlighting that providing adequate support and training is crucial for enabling them to overcome these barriers. Thus, the integration of empirical evidence from research into interview results serves to reinforce the conclusion that DeepL has a positive effect on learning to write English as a foreign language. However, it is also important to recognize the challenges that must be overcome to maximize the benefits of this technology in language education contexts.

Based on the previous research, it is evident that DeepL provides various advantages for students, especially in enhancing their writing skills. The results of this study further confirm DeepL's role in influencing students' writing skills. Previous studies have demonstrated a correlation between utilizing and reinforcing DeepL and students' writing proficiency. In addition, the hypothesis testing accepted the alternative hypothesis, indicating a positive impact on the writing skills of eleventh-grade students at SMK Negeri 1 Singaraja.

This research makes a contribution to the hospitality major at SMK Negeri 1 Singaraja by introducing the use of AI technology, especially DeepL, in learning to write. The research results show that the use of DeepL can effectively improve students' writing skills, which is very important in the hospitality industry. Good writing skills are essential for a variety of tasks, such as compiling reports, creating proposals, and effectively communicating with international guests. Kaharuddin et al. (2019) emphasize that these skills are particularly crucial for crafting presentations, a key competency highlighted by graduates in the hospitality industry. Given these findings, hospitality major may consider integrating AI tools like DeepL into their curricula, providing additional support for students in mastering the English language, especially

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in the hospitality context. In addition, this research also provides empirical data that can be used by teachers to develop more innovative and effective teaching strategies, as well as help students overcome challenges in writing. The implementation of AI technology in learning is also in line with the hospitality department's efforts to adopt a blended learning approach, which combines face-to-face and online learning, thereby enriching students' learning experiences and better preparing them for careers in the hospitality industry.

CONCLUSION

The main objective of this research is to examine the effect of using DeepL on students' writing skills. An explanatory mixed methods approach was employed, involving the collection of quantitative data through pre-test and post-test assessments, in addition to qualitative data through open interview sessions. Both types of data were analyzed using descriptive, inferential, and interactive analysis models. The research findings indicated that the majority of students exhibited an effect in their writing skills. Students in the experimental group demonstrated higher mean scores than the control group, suggesting enhanced performance. Inferential statistical analysis confirmed the existence of an effect and was categorized as medium. Further interviews revealed positive feedback from students regarding DeepL features, such as autocorrect and alternative word suggestions, which improve grammatical accuracy. Students reported enjoyable learning experiences, increased language proficiency, and greater self-confidence, demonstrating DeepL's transformative potential in teaching writing. However, factors such as connectivity issues and unfamiliarity with the app hinder its effectiveness. Despite these challenges, there is no doubt that DeepL has the potential to improve writing skills. However, students need more time to adapt. Improving device compatibility and connectivity is critical to optimizing the learning experience. DeepL's superiority over Google Translate highlights its potential as a transformational tool in language acquisition and teaching writing. Recognizing the complexity and variables in non-parametric situations underscores the need for more comprehensive and rigorous research. Strengthening the empirical base through robust investigations will be critical to validating the results and ensuring effective integration of DeepL in the education sector.

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