

**PENGARUH PENGGUNAAN DEEPL TRANSLATOR TERHADAP PENGUASAAN
KOSAKATA SISWA SEKOLAH MENEGAH ATAS**

***THE EFFECT OF USING DEEPL TRANSLATOR ON SENIOR HIGH SCHOOL
STUDENTS' VOCABULARY MASTERY***

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Abstract

This study aimed to examine the extent to which students' vocabulary mastery improved after being taught using DeepL Translator and to determine the significance of its effect on the vocabulary mastery of eleventh-grade students at SMAN 6 Kediri. This study employed a quantitative approach with a pre-experimental one-group pre-test and post-test design. The population consisted of 432 eleventh-grade students, with one class consisting of 36 students selected through simple random sampling as the sample. The research instrument was a vocabulary test consisting of 25 multiple-choice items administered as a pre-test and post-test. The treatment involved the use of DeepL Translator in vocabulary learning activities. The data were analyzed using descriptive statistics, the Shapiro–Wilk normality test, and a paired-samples t-test with a significance level of 0.05. The results showed that the students' mean score increased from 77.00 in the pre-test to 85.22 in the post-test, indicating an improvement of 8.22 points. The paired-samples t-test yielded a significance value of 0.000, which was lower than 0.05, indicating a statistically significant difference between the pre-test and post-test scores. The findings suggest that the guided use of DeepL Translator can support vocabulary learning by providing contextualized translation and alternative word choices, particularly in developing students' understanding of word meaning, contextual meaning, and appropriate word use.

Keywords: DeepL Translator, vocabulary mastery, senior high school students, English language learning

Abstrak

Penelitian ini bertujuan untuk mengetahui sejauh mana penguasaan kosakata siswa meningkat setelah diajar menggunakan DeepL Translator serta mengetahui signifikansi pengaruh penggunaannya terhadap penguasaan kosakata siswa kelas XI di SMAN 6 Kediri. Penelitian ini menggunakan pendekatan kuantitatif dengan desain pre-eksperimental one-group pre-test and post-test. Populasi penelitian terdiri atas 432 siswa kelas XI, dengan satu kelas yang berjumlah 36 siswa dipilih sebagai sampel melalui simple random sampling. Instrumen penelitian berupa tes kosakata yang terdiri atas 25 soal pilihan ganda yang diberikan sebagai pre-test dan post-test. Perlakuan dilakukan dengan menggunakan DeepL Translator dalam kegiatan pembelajaran kosakata. Data dianalisis menggunakan statistik deskriptif, uji normalitas Shapiro–Wilk, dan paired-samples t-test dengan taraf signifikansi 0,05. Hasil penelitian menunjukkan bahwa nilai rata-rata siswa meningkat dari 77,00 pada pre-test menjadi 85,22 pada post-test, atau mengalami peningkatan sebesar 8,22 poin. Hasil paired-samples t-test menunjukkan nilai signifikansi sebesar 0,000, lebih kecil dari 0,05, yang menunjukkan adanya perbedaan yang signifikan antara skor pre-test dan post-test. Hasil tersebut menunjukkan bahwa penggunaan DeepL Translator secara terarah dapat mendukung pembelajaran kosakata melalui penyediaan terjemahan kontekstual dan pilihan kata alternatif, khususnya dalam mengembangkan pemahaman makna kata, makna kontekstual, dan penggunaan kata yang tepat.

Kata Kunci: DeepL Translator, penguasaan kosakata, siswa sekolah menengah atas, pembelajaran bahasa Inggris

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INTRODUCTION

Vocabulary is an essential component of English language learning because it enables learners to understand texts, express ideas, and communicate effectively. Vocabulary mastery involves more than knowing the meanings of individual words; learners also need to understand meanings in context and use words appropriately in different situations. Nation (2022) emphasizes that vocabulary learning requires meaningful exposure and opportunities for learners to encounter and use words in context. Similarly, Schmitt (2021) explains that vocabulary knowledge includes understanding word meanings, contextual meanings, and appropriate word use. Therefore, developing vocabulary mastery requires learning activities that provide learners with meaningful language input and opportunities to understand and apply vocabulary.

Despite its importance, vocabulary learning remains challenging for many English as a Foreign Language (EFL) learners. Students may have difficulty understanding unfamiliar words, interpreting the meaning of words according to context, and selecting appropriate vocabulary for particular situations. These difficulties can affect their ability to comprehend English texts and communicate effectively. Therefore, learning media that provide accessible and contextualized vocabulary support may help students overcome some of these difficulties.

The development of digital technology has provided various tools that can support English language learning, including machine translation applications. One such tool is DeepL Translator, which provides translation based on sentence context and offers alternative word choices. These features can expose learners to different lexical choices and help them consider the meaning and use of vocabulary within sentences. Toral (2020) discusses neural machine translation systems, while Jolley and Maimone (2022) highlight the potential of online machine translation tools to provide immediate lexical support for language learners. Thus, DeepL Translator has the potential to function not only as a translation tool but also as a supporting medium for vocabulary learning.

Previous studies have indicated the potential of digital translation tools in language learning. Lee (2023) reported that digital translation tools can support vocabulary comprehension through contextualized translation. Taufiqurrohman and Sofiana (2025) also found that the use of DeepL can support students' vocabulary mastery. These findings suggest that DeepL Translator may provide useful support for vocabulary learning, particularly when learners are guided to analyze translations and consider vocabulary according to context. However, research specifically examining the effect of DeepL Translator on vocabulary mastery among senior high school students remains limited. Therefore, further research is needed to provide empirical evidence of the use of DeepL Translator for vocabulary learning in this educational context.

Based on this consideration, the present study investigated the effect of using DeepL Translator on the vocabulary mastery of eleventh-grade students at SMAN 6 Kediri. The study specifically examined the improvement in students' vocabulary mastery after the implementation of DeepL Translator and determined whether the difference between their pre-test and post-test scores was statistically significant. The research questions were: (1) To what extent does students' vocabulary mastery improve after being taught using DeepL Translator? and (2) Is there a

significant effect of using DeepL Translator on the vocabulary mastery of eleventh-grade students at SMAN 6 Kediri?

METHOD

This study employed a quantitative approach using a pre-experimental design, specifically a one-group pre-test and post-test design. The study involved one group that was assessed before and after the treatment to examine the effect of using DeepL Translator on students' vocabulary mastery. The independent variable was DeepL Translator, while the dependent variable was students' vocabulary mastery. The design was adapted from Creswell and Creswell (2018).

The study was conducted at SMAN 6 Kediri during the second semester of the 2025/2026 academic year. The population consisted of 432 eleventh-grade students. One class was selected through simple random sampling as the sample, consisting of 36 students. The research instrument was a vocabulary test consisting of a pre-test and a post-test. Each test contained 25 multiple-choice questions with four options. The pre-test and post-test used equivalent indicators and levels of difficulty but different test items to prevent students from memorizing previous answers. The test measured three indicators of vocabulary mastery: word meaning, contextual meaning, and appropriate word use. The word meaning indicator consisted of items 1–8, contextual meaning consisted of items 9–17, and appropriate word use consisted of items 18–25. The instrument was developed based on Nation (2022) and Schmitt (2021).

The instrument was validated through expert judgment by the research advisors before data collection. The test items were reviewed for their alignment with the research objectives, clarity of instructions, appropriateness of vocabulary, and consistency with the three vocabulary indicators. The items were also developed in accordance with the English curriculum, learning objectives, and vocabulary materials for eleventh-grade students at SMAN 6 Kediri.

The research procedure consisted of a pre-test, two treatment sessions, and a post-test. Before the treatment, the students completed the pre-test individually within 50 minutes without using dictionaries, DeepL Translator, or other translation applications. In the first treatment session, the researcher introduced DeepL Translator and its relevant features, including contextual translation and alternative word suggestions. Students then worked with descriptive texts to identify unfamiliar vocabulary, explore meanings, compare alternative translations, and determine appropriate meanings based on context. In the second session, students continued vocabulary activities using different descriptive texts and worksheets. They practiced determining contextual meanings, selecting appropriate vocabulary, and applying vocabulary in simple descriptive sentences. After the two treatment sessions, the students completed the post-test individually within 50 minutes under conditions equivalent to those of the pre-test.

The data were obtained from the students' pre-test and post-test scores. The scores were analyzed using IBM SPSS Statistics version 27. Descriptive statistics were used to summarize the minimum score, maximum score, mean, and standard deviation. The Shapiro–Wilk test was used to examine the normality of the data. Since the data were normally distributed, a paired-samples t-test was conducted to determine whether there was a statistically significant difference between the pre-test and post-test scores. The hypothesis was tested at a significance level of 0.05. A

significance value below 0.05 indicated a significant effect of using DeepL Translator on students' vocabulary mastery. The use of the paired-samples t-test was based on the nature of the one-group pre-test and post-test design and its function of comparing scores from the same participants before and after treatment (Afifah, 2020).

RESULTS AND DISCUSSION

The results of the study were obtained from the pre-test and post-test administered to 36 students before and after the treatment using DeepL Translator. The analysis focused on the students' vocabulary mastery and the differences between their performance before and after the treatment.

Students' Vocabulary Mastery Before and After the Treatment

Table 1. Descriptive Statistics of Pre-Test and Post-Test Scores

Statistics	Pre-Test	Post-Test
N	36	36
Minimum	52.00	72.00
Maximum	100.00	100.00
Mean	77.00	85.22
Standard Deviation	12.02	7.33

Source: Research data processed using IBM SPSS Statistics Version 27

As shown in Table 1, the students' mean vocabulary score increased from 77.00 in the pre-test to 85.22 in the post-test, indicating an improvement of 8.22 points after the treatment. The minimum score also increased from 52.00 to 72.00, while the standard deviation decreased from 12.02 to 7.33. These results indicate that the students achieved higher vocabulary scores and showed more consistent performance after learning through DeepL Translator. The improvement was also observed across all three vocabulary aspects assessed in the study, as presented in Table 2.

Table 2. Mean Scores of Vocabulary Aspects

Vocabulary Aspects	Pre-Test	Post-Test	Improvement
Word Meaning	25.44	26.65	1.12
Contextual Meaning	24.44	28.22	3.78
Appropriate Word Use	27.11	30.56	3.45

Source: Research data processed using IBM SPSS Statistics Version 27

Table 2 shows that all three aspects of vocabulary mastery improved after the treatment. The greatest improvement occurred in contextual meaning, which increased by 3.78 points, followed by appropriate word use, which increased by 3.45 points. Word meaning also improved, with an increase of 1.12 points.

The improvement in word meaning may be related to the immediate translation feature of DeepL Translator. During the treatment, students used DeepL to identify the meanings of

unfamiliar words, allowing them to access lexical information more quickly. This finding supports Nation's (2022) view that vocabulary learning benefits from meaningful language input and access to word meanings. It is also consistent with Jolley and Maimone (2022), who explain that machine translation tools can provide learners with immediate lexical support during language learning.

The greater improvement in contextual meaning suggests that students benefited from encountering vocabulary within meaningful contexts. During the treatment, students worked with descriptive texts and used DeepL to compare translations and determine meanings based on the context of sentences. This finding supports Schmitt's (2021) view that vocabulary mastery involves understanding how words function in different contexts. It is also consistent with Lee (2023), who reported that digital translation tools can support vocabulary comprehension through contextual translation.

The improvement in appropriate word use can be associated with students' use of alternative translation suggestions provided by DeepL. Rather than simply accepting a single translation, students compared alternative lexical choices and selected words that were more appropriate for the given context. This activity encouraged students to consider how vocabulary is used in different situations, which is consistent with Schmitt's (2021) view of vocabulary knowledge. The finding also agrees with Taufiqurrohman and Sofiana (2024), who reported that DeepL can provide contextualized language input that supports appropriate vocabulary selection.

Statistical Test of the Treatment Effect

Before conducting the paired-samples t-test, the normality of the pre-test and post-test data was examined using the Shapiro–Wilk test. The significance values were 0.067 for the pre-test and 0.097 for the post-test, both of which were greater than 0.05. Therefore, the data met the normality assumption. The paired-samples t-test was then conducted to determine whether the difference between the pre-test and post-test scores was statistically significant.

Table 3. Paired Sample t-Test Result

Comparison	t	df	Sig. (2-tailed)
Pre-test - Post-test	-8.791	35	0.000

Source: Research data processed using IBM SPSS Statistics Version 27

As presented in Table 3, the paired-samples t-test produced a t-value of -8.791 with 35 degrees of freedom and a significance value of 0.000. Since the significance value was lower than 0.05, there was a statistically significant difference between the students' vocabulary mastery before and after the treatment. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted.

The significant improvement indicates that the use of DeepL Translator contributed positively to students' vocabulary mastery in this study. The finding is consistent with Nation (2022), who emphasizes the importance of meaningful input in vocabulary learning, and Schmitt (2021), who views vocabulary mastery as involving not only word meanings but also contextual meaning and appropriate word use. The finding also supports previous studies by Toral (2020), Lee (2023), and Taufiqurrohman and Sofiana (2024), which reported the potential of DeepL and digital translation tools to provide contextualized language input and support vocabulary learning.

Overall, the findings suggest that DeepL Translator functioned not merely as a translation tool but also as a source of contextualized language input and alternative lexical choices. Through these features, students were able to explore unfamiliar vocabulary, understand meanings in context, and consider appropriate word choices. Thus, the improvement across the three vocabulary aspects provides evidence that integrating DeepL Translator into structured vocabulary learning activities can support students' vocabulary mastery.

CONCLUSION AND SUGGESTIONS

The findings of this study indicate that the use of DeepL Translator improved the vocabulary mastery of eleventh-grade students at SMAN 6 Kediri. The students' mean score increased from 77.00 in the pre-test to 85.22 in the post-test, showing an improvement of 8.22 points. The improvement was observed across the three vocabulary aspects assessed in the study, namely word meaning, contextual meaning, and appropriate word use.

The results also demonstrate that the use of DeepL Translator had a statistically significant effect on students' vocabulary mastery. The paired-samples t-test resulted in a significance value of 0.000, which was lower than the 0.05 significance level. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. These findings indicate that DeepL Translator can support vocabulary learning when integrated into structured classroom activities.

Based on these findings, English teachers are recommended to integrate DeepL Translator into vocabulary learning activities, particularly activities that require students to understand word meanings, interpret vocabulary in context, and select appropriate words. However, teachers should guide students to use the tool as a learning aid rather than relying on it solely for direct translation. Future researchers are recommended to conduct studies with larger samples, longer treatment periods, or experimental and quasi-experimental designs involving a control group to provide stronger evidence of the effectiveness of DeepL Translator.

REFERENCES

- Afifah. (2020). Paired sample t-test in educational research. *Journal of Educational Research and Evaluation*, 4(3), 221–227.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Jolley, J. R., & Maimone, L. (2022). Free online machine translation: Use and perceptions by Spanish students and instructors. In *Learn languages, explore cultures, transform lives* (pp. 181–200). University of Nebraska-Lincoln.
- Lee, S. (2023). The use of digital translation tools in English learning in South Korea. *English Teaching*, 78(3), 45–68.
- Nation, P. (2022). *Learning vocabulary in another language* (3rd ed.). Cambridge University Press.
- Schmitt, N. (2021). Vocabulary knowledge and vocabulary acquisition in language learning. *Language Teaching Research*, 25(2), 112–135.

- Taufiqurrohman, M., & Sofiana, N. (2025). DeepL app: Effect on students' vocabulary mastery. *Indonesian Journal of Educational Development*, 6(2), 4880. <https://ojs.mahadewa.ac.id/index.php/ijed/article/view/488>
- Toral, A. (2020). Comparative analysis of neural machine translation systems such as DeepL and Google Translate. *Translation and Interpreting Studies*, 15(3), 321–343.