

MENINGKATKAN KEMAMPUAN MEMBACA DAN MEMAHAMI SISWA MELALUI GOOGLE TRANSLATE

Ariesta Nur Mintarni^{1)*}, Rofiudin²⁾, Sumartono³⁾

¹²³ Program Studi Ilmu Pendidikan Bahasa Inggris, Universitas Pancasakti Tegal.

*E-mail Korespondensi: ariestanurmintarni@gmail.com

Abstrak

Penelitian ini menguji efektivitas Google Translate terhadap pemahaman membaca siswa kelas XI di MAN Kota Tegal. Dengan desain quasi-eksperimental yang melibatkan 68 siswa yang dibagi menjadi kelompok eksperimen (menggunakan Google Translate) dan kelompok kontrol (metode tradisional), data dikumpulkan melalui pre-test, post-test, dan kuesioner. Hasil menunjukkan kelompok eksperimen memperoleh skor post-test yang secara signifikan lebih tinggi (84,34) dibandingkan kelompok kontrol (73,17), dengan uji t independen mengonfirmasi perbedaan yang signifikan ($t = -7,287$, $p < 0,001$). Kuesioner mengungkapkan persepsi positif siswa terhadap penggunaan Google Translate. Studi ini menyimpulkan bahwa Google Translate efektif untuk meningkatkan pemahaman membaca sebagai suplemen terstruktur dalam pembelajaran bahasa Inggris sebagai bahasa asing (EFL).

Kata kunci: Pembelajaran Bahasa Inggris sebagai Bahasa Asing (EFL); Google Translate; Penelitian Quasi-Eksperimental; Pemahaman Membaca; Siswa Sekolah Menengah Atas;

ENHANCING STUDENT'S READING COMPREHENSION THROUGH GOOGLE TRANSLATE

Abstract

This study examined the effectiveness of Google Translate on reading comprehension of eleventh-grade students at MAN Kota Tegal. Using a quasi-experimental design with 68 students divided into experimental (using Google Translate) and control (traditional method) groups, data were collected through pre-test, post-test, and questionnaire. Results showed the experimental group achieved significantly higher post-test scores (84.34) than the control group (73.17) with independent t-test confirming significant difference ($t = -7.287$, $p < 0.001$). The questionnaire revealed positive student perceptions toward Google Translate usage. The study concludes Google Translate is effective for improving reading comprehension as a structured supplement in EFL learning.

Keywords: EFL Learning; Google Translate; Quasi-Experimental Research; Reading Comprehension; Senior High School Students;

1. BACKGROUND

Reading comprehension is a fundamental skill that enables students to understand, analyze, and engage with various text types, playing a crucial role in academic success and English language acquisition. In the Indonesian EFL context, where English serves as a gateway to global communication and information access, strong reading skills are essential for critical thinking and participation in academic, professional, and social spheres.

Despite its importance, Indonesian senior high school students face persistent challenges in developing reading comprehension. Limited English vocabulary remains a primary obstacle, as vocabulary knowledge is essential for text understanding (Graves, 2016). Research indicates that while graduates are expected to master approximately 3,000 common English words, students typically achieve only 72% mastery of the first 1,000 words, with even lower proficiency at higher tiers (Nation, 2019). This vocabulary gap is compounded by ineffective teaching approaches that rely on rote memorization rather than contextual learning (Clark, 2013). Furthermore, students'

negative perceptions of English as merely a formal subject rather than a practical skill significantly diminish their motivation to engage with English texts (Nasihin & Oktarini, 2022).

Recent studies have explored technology integration as a potential solution to these challenges. Alqahtani (2015) emphasized the importance of contextual vocabulary learning over memorization, though the study did not examine digital tools like Google Translate in facilitating such learning. Kai and Hua (2021) investigated Google Translate's impact on vocabulary retention among 15 low-proficiency indigenous learners in rural Malaysia, finding significant improvement in vocabulary knowledge through an action research design involving pre-tests, post-tests, and structured interviews. While promising, this study's small sample size and focus on vocabulary rather than holistic reading comprehension limit its generalizability. Wirantaka and Fijanah (2022) examined teachers' perceptions of Google Translate in writing instruction, identifying effective strategies such as pre-editing source text and post-editing output. However, their focus remained on writing skills and teacher perspectives rather than students' measurable reading comprehension outcomes.

Perfetti's Verbal Efficiency Theory (1985, 2007) provides the theoretical foundation for this investigation, positing that fluent word recognition and efficient decoding free cognitive resources for higher-order comprehension processes. Google Translate, by offering immediate vocabulary support, potentially reduces decoding demands and enables learners to allocate more cognitive capacity to understanding text meaning (Karnal & Pereira, 2013). This theoretical lens suggests that machine translation tools may serve as effective scaffolds in EFL reading instruction.

Despite growing research on Google Translate in language learning, significant gaps remain. Few studies employ rigorous experimental designs to measure the tool's direct impact on reading comprehension, particularly among Indonesian senior high school students. Limited research examines students' perceptions of Google Translate compared to conventional methods, and no structured framework exists for integrating the tool into formal reading instruction. This study addresses these gaps by investigating: (1) the effectiveness of Google Translate in developing senior high school students' reading comprehension, and (2) students' perceptions of using Google Translate compared to conventional methods.

Pendahuluan ditulis dengan Cambria-11 tegak, dengan spasi 1.15. Tiap paragraf diawali kata yang menjorok ke dalam sekitar 1 cm dari tepi kiri tiap kolom.

2. METHOD

Jenis Penelitian

This study employed a sequential explanatory mixed-methods approach to investigate the effectiveness of Google Translate in developing senior high school students' reading comprehension. The quantitative component utilized a quasi-experimental design with pretest-posttest control group design, while the qualitative component incorporated closed-ended questionnaires to explore students' perceptions. This combination allowed for both statistical measurement of learning outcomes and contextual understanding of student experiences with the tool.

Waktu dan Tempat Penelitian

The research was conducted at MAN Kota Tegal, a senior high school in Tegal City, Central Java, Indonesia. The study took place during the odd semester of the 2025/2026 academic year,

specifically from September to October 2025. The intervention spanned six meetings over approximately three weeks, including pretest administration, treatment sessions, and posttest implementation.

Target/Subjek Penelitian

The population of this study consisted of all 11th-grade students at MAN Kota Tegal in the academic year 2025/2026. There were a total of 12 classes, each with approximately 30 students, making the total population around 360 students. The sample was selected using purposive cluster sampling technique, which was appropriate because the classes were naturally occurring groups within the school, and it was practical to assign entire classes to either the experimental or control group without disrupting the school schedule. The sample comprised two classes: Class XI-I as the experimental group consisting of 38 students who used Google Translate during reading activities, and Class XI-L as the control group consisting of 30 students who did not use Google Translate and relied on conventional methods such as printed dictionaries. The selection of these two classes was based on their similar academic performance levels, as determined by their previous English grades, to ensure comparability between the groups.

Prosedur

The research procedure followed a structured pretest-posttest control group design conducted over six meetings for each class. Prior to the main study, a trial test was conducted on September 20, 2025, in class XI-J (n=35) to check the instrument's validity and reliability. Following the trial, the pretest was administered to the control group on September 27, 2025, and to the experimental group on September 29, 2025. The treatment phase consisted of four sessions held weekly, with each session lasting 45 minutes on one day and 30 minutes on another. During the treatment, the experimental group received reading instruction with Google Translate integration, where students were taught to use the tool for translating unfamiliar words and phrases while reading descriptive texts. The control group engaged in identical reading activities but used conventional dictionaries instead of Google Translate. Both groups studied the same materials about descriptive text, including its definition, structure, language features, and text analysis. Students in both classes worked in groups to analyze descriptive texts, find new vocabulary, answer comprehension questions, and present their findings. The posttest was administered to the experimental group on October 17, 2025, and to the control group on October 18, 2025, immediately after the completion of the treatment phase.

Data, Instrumen, dan Teknik Pengumpulan Data

Three main instruments were employed to collect comprehensive data for this study. The primary instrument was a reading comprehension test consisting of 23 validated multiple-choice questions adapted from standardized English proficiency assessments to ensure validity and reliability. The test was administered as both pretest and posttest to measure students' reading comprehension skills before and after the intervention, evaluating their ability to identify main ideas, understand vocabulary in context, infer meanings, and analyze descriptive texts. The second instrument was a structured questionnaire administered only to the experimental group after the posttest, containing 25 validated items using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The questionnaire was designed to assess students' perceptions regarding the utility of Google Translate, challenges encountered, affective impact on learning, and strategies used when employing the tool. The third instrument comprised documentation of the intervention process, including lesson plans, student worksheets, and photographic evidence of classroom activities.

Teknik Analisis Data

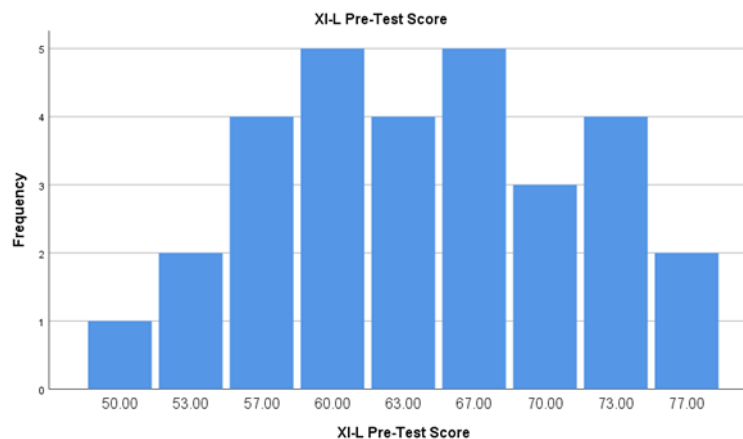
Data analysis was conducted using both quantitative and qualitative techniques. For the quantitative data, descriptive statistics were calculated including mean, median, standard deviation, and score ranges to summarize the overall performance of both groups. The Shapiro-Wilk normality test was employed using SPSS version 26 to verify that the data were normally distributed, with significance values above 0.05 indicating normal distribution. To compare the posttest reading comprehension scores between the experimental and control groups, an independent samples t-test was conducted. Levene's test was used to check the homogeneity of variances, and if the assumption of homogeneity was violated, Welch's t-test was applied instead. The significance level was set at $\alpha = 0.05$, with p-values below 0.05 indicating statistically significant differences between groups. For the qualitative data from the questionnaire, frequency analysis with percentages was employed to identify patterns in students' responses, with results organized into summary tables highlighting distributions across categories such as perceived benefits, common challenges, and adaptive strategies in using Google Translate compared to conventional methods.

3. RESULT AND DISCUSSION

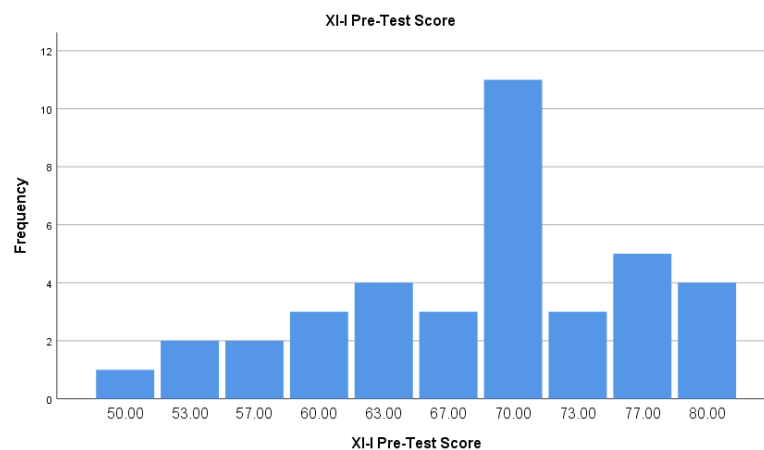
Pre-test Result

Before the intervention, a pre-test was administered to both groups to assess their initial reading comprehension skills. The control group (XI-L, $n=30$) and the experimental group (XI-I, $n=38$) completed a 30-question multiple-choice test based on descriptive texts.

The pre-test scores show that both groups had a similar baseline of reading comprehension. The experimental group had a mean score of 68.34, while the control group had a mean of 64.23. This indicates that any subsequent differences in post-test scores could be attributed to the treatment.



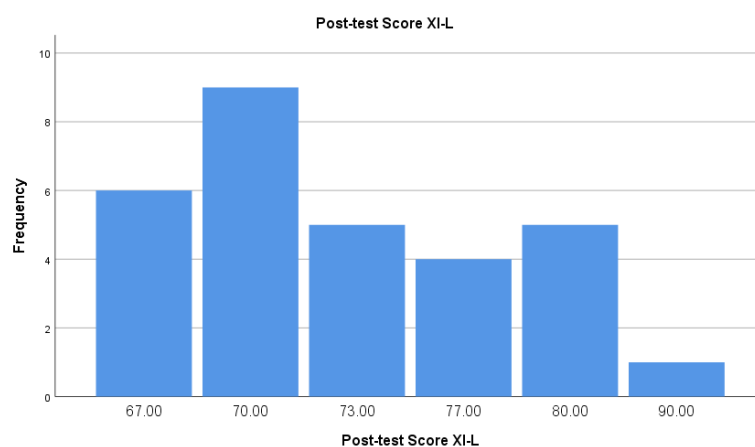
Tabel 1. Skor Partisipasi Masyarakat pada PEMILUKADA 2017



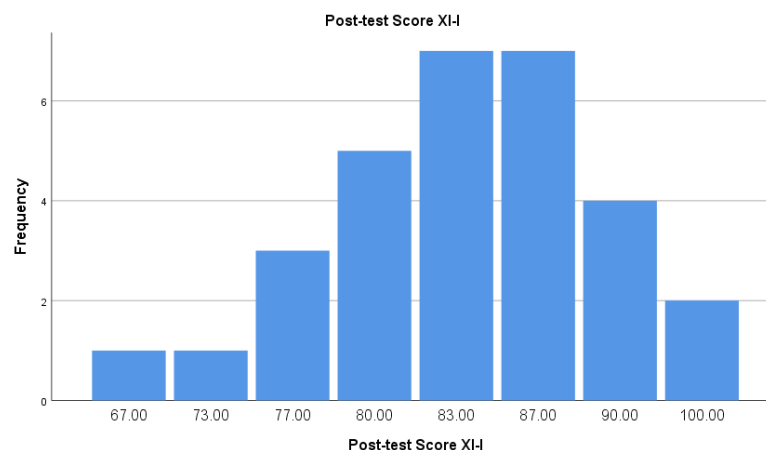
Tabel 1. Skor Partisipasi Masyarakat pada PEMILUKADA 2017

Post-test Result

Following the four-session treatment, a post-test was administered to measure the students' progress. The experimental group, which used Google Translate, showed a notable increase in scores. The distribution of post-test scores for both classes is presented in the histograms below.



Gambar 1. Tingkat Partisipasi Siswa dalam Kegiatan Diskusi.....



Gambar 1. Tingkat Partisipasi Siswa dalam Kegiatan Diskusi.....

Descriptive Statistics

The descriptive statistics in Table 4.1 summarize the performance of both groups. The experimental group achieved a post-test mean of 84.34, a substantial increase from its pre-test mean of 68.34. In contrast, the control group's mean improved from 64.23 to 73.17.

Class	N	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Experimental (XI-I)	38	68.34	8.06	84.34	6.80
Control (XI-L)	30	64.23	7.27	73.17	5.55

Gambar 1. Tingkat Partisipasi Siswa dalam Kegiatan Diskusi.....

The experimental group's mean gain of 16.00 points was significantly higher than the control group's gain of 8.94 points, suggesting a positive effect from using Google Translate.

Normality Test and Independent T-test

The Shapiro-Wilk test was conducted to check the normality of the data distribution. Data were considered normally distributed if the significance value was greater than 0.05. The complete results of the normality test were presented as follows:

	Tests of Normality		
	Statistic	df	Sig.
Pre-test XI-L (Control)	.965	30	.408
Post-Test XI-L (Control)	.954	30	.216
Pre-test XI-I (Experimental)	.946	30	.131
Post-test XI-I (Experimental)	.944	30	.120

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tabel 1. Skor Partisipasi Masyarakat pada PEMILUKADA 2017

An independent samples t-test was then conducted to determine if the difference between the groups' post-test means was statistically significant. The result was shown as below:

Independent T-test

	t	df	Sig. (2-tailed)	Mean Difference
Post-Test Scores	-7.287	66	.000	-11.175

Tabel 1. Skor Partisipasi Masyarakat pada PEMILUKADA 2017

The results ($t = -7.287, p < 0.001$) indicate a statistically significant difference between the two groups. The mean score of the experimental group was significantly higher than that of the control group, leading to the rejection of the null hypothesis.

Frequency Analysis of Student Perceptions

After the post-test, the experimental group completed a questionnaire on their perceptions of using Google Translate. Table 4.3 summarizes their responses.

Aspect	Strongly Agree / Agree	Neutral	Strongly Disagree / Disagree
Helps understand difficult words	79%	13%	8%
Increases reading confidence	79%	16%	5%
Speeds up reading process	74%	16%	11%
Helps grasp main ideas	79%	13%	8%
Increases motivation to read	76%	16%	8%
Worries about over-reliance	34%	24%	42%
Confused by out-of-context translations	37%	26%	37%

Tabel 1. Skor Partisipasi Masyarakat pada PEMILUKADA 2017

The data shows that a large majority of students viewed Google Translate positively. Most agreed it helped them understand difficult words, boosted their confidence, and made reading more enjoyable and motivating. However, a notable minority expressed concerns about potential over-reliance and occasional inaccuracies in translations, particularly with contextual meaning.

Discussion

The results of this study demonstrate that using Google Translate significantly improves reading comprehension among senior high school students. The experimental group's post-test mean of 84.34, which was significantly higher than the control group's 73.17 ($p < .001$), provides strong empirical evidence for the tool's effectiveness. This finding rejects the null hypothesis and supports the alternative hypothesis that Google Translate positively affects reading comprehension development.

This outcome can be explained by Perfetti's Verbal Efficiency Theory, which posits that efficient word recognition frees cognitive resources for higher-order comprehension processes. In this study, Google Translate acted as a scaffold, allowing students in the experimental group to quickly decode unfamiliar vocabulary. This efficiency reduced their cognitive load, enabling them to focus more on understanding the main ideas and details of the text, which led to their superior performance on the post-test. The control group, reliant on slower dictionary look-ups or guessing from context, likely had fewer cognitive resources available for deep comprehension.

The quantitative findings are strongly reinforced by the students' perceptions. The overwhelming majority (79%) agreed that Google Translate helped them understand difficult words and grasp main ideas. This aligns with the quantitative score improvements and confirms that the tool effectively bridges vocabulary gaps, a key barrier identified in the background of this study. Furthermore, the reported increase in reading speed (74%) and motivation (76%) suggests that the tool not only aids comprehension but also fosters a more positive and engaging learning experience, addressing the issue of low student motivation.

Despite these benefits, the study also reveals important limitations. A segment of students (37%) expressed confusion when translations did not fit the context, a finding consistent with Amna's (2023) observations on the disadvantages of machine translation. This underscores the necessity of using Google Translate as a guided supplement, not a standalone solution. The concerns about potential over-reliance (34%) further emphasize the teacher's critical role in promoting strategic use—such as checking multiple meanings and using context clues—to mitigate these drawbacks and ensure the tool supports, rather than replaces, active cognitive engagement with the text.

4. CONCLUSION

Conclusion

This study demonstrates that Google Translate significantly improves reading comprehension among Indonesian senior high school EFL learners. The experimental group using Google Translate achieved substantially higher post-test scores ($M=84.34$) compared to the control group using conventional methods ($M=73.17$), with statistical analysis confirming the tool's positive impact on vocabulary acquisition, main idea identification, and inferential understanding. These findings provide empirical evidence supporting Perfetti's Verbal Efficiency Theory, illustrating how Google Translate reduces cognitive load by facilitating efficient word recognition, thereby freeing mental resources for deeper comprehension processes.

The research contributes to the existing literature by offering experimental evidence of Google Translate's effectiveness specifically for reading comprehension in secondary education, an area previously dominated by studies on vocabulary or writing skills. Student perceptions reinforced these quantitative findings, with the majority reporting increased confidence, motivation, and reading speed when using the tool. However, the study also identified legitimate concerns regarding potential over-reliance and inaccuracies with idiomatic expressions, suggesting that Google Translate functions optimally as a guided supplementary tool rather than an independent learning solution. For pedagogical practice, these findings support the strategic integration of machine translation in technology-enhanced language instruction while emphasizing the necessity of teacher guidance to maximize benefits and mitigate limitations.

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