

Utilizing Wordtune as A Digital Writing Assistant to Enhance Students' Writing Skill

Dwi Andina*¹, Pirman Ginting²

^{1,2} Universitas Muhammadiyah Sumatera Utara, Indonesia

*Correspondence: ✉ dwiandina90@gmail.com

Abstract

Writing is a critical language skill that students must acquire; nevertheless, the teaching and learning process for writing in the classroom does not go smoothly. As a result, the purpose of this study is to examine Wordtune's potential as a digital writing aid to enhance the written proficiency of English as a foreign language (EFL) students. To accomplish this goal, a pre-experimental research design was used with quantitative research tools. The pre- and post-tests were employed as tools for gathering data. Twenty students in grade ten at SMK-BM PAB 3 Medan Estate, majoring in MPLB and AKL, served as the sample for this study. Tests were given both before and after the intervention to gather data. The significant difference between the pre-and post-tests was analyzed statistically using SPSS with the T-test. The result indicates that the probability value for pre-test and post-test data is 0.000, the Tcount value is 26.536, and the Ttable value is 2.093. Because the value of Tcount > Ttable is 26.536 > 2.093 and the probability value (Sig.) 0.000 < 0.05. As a result, the use of Wordtune considerably enhanced students' writing skills. As this study demonstrated, Wordtune can be integrated into the learning process to help students write more successfully.

Article History

Received: 25-July-2024

Revised : 01-Aug-2024

Accepted: 19-Aug-2024

Keywords:

Digital writing assistant, Wordtune.



© 2024 Dwi Andina, Pirman Ginting

This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

INTRODUCTION

In modern times, technological advancements impact every aspect of human life (Laili & Mufliah, 2020). For instance, artificial intelligence (AI) is increasingly used in society and among students. Limna et al. (2022) stated that Artificial intelligence is the ability of computer programs to learn and think. It also describes any program that carries out operations that would typically call for artificial intelligence. In particular, artificial intelligence (AI) has created new challenges, opportunities, and difficulties for educational innovation. These include the rise of complex educational systems, the move to individualized learning, and barriers to the role of teachers. (Holmes et al., 2018). Furthermore, AI has gained significant focus in education because it allows teachers and students to communicate more efficiently and can intuitively learn and detect user activities. As a result, by leveraging the power of AI and deep learning algorithms, teachers may obtain valuable insights from

the massive amounts of student data collected, allowing them to make more educated decisions to improve student outcomes and retention (Mogavi et al., 2023).

Artificial intelligence and technology have emerged as valuable instruments for improving students' English writing skills (Yoandita & Yenni Hasnah, 2024). It allows for the integration of new tools, such as digital writing assistants. Digital writing assistants are AI-powered tools that increase writing assignments' quality and efficiency (Shi et al., 2022). Writing with digital assistants involves utilizing AI-powered tools and software to help students enhance their English language proficiency (Winans, 2021). These tools employ advanced algorithms to analyze and assess students' writing, offering them immediate feedback and suggestions for enhancement. Over the past few years, there has been a rise in the use of artificial intelligence-powered writing tools that have become increasingly popular among students. These digital assistants provide a variety of features and capabilities that aim to improve the writing process for students (Su et al., 2019). These digital assistants offer a range of features and capabilities designed to enhance the writing process for students. Nevertheless, existing digital writing tools mostly assist authors in editing drafts for grammatical accuracy, with only a handful of online writing apps assisting users throughout the writing process. Wordtune is one such application.

According to Zhao (2023) Wordtune is a digital writing assistant that uses AI technology to offer alternative sentence structures and synonym replacements for highlighted text, all while preserving the original meaning. As defined by Suman et al. (2023), Wordtune is a digital writing assistance built specifically for EFL authors. Using this tool to help students build or translate ideas into English can also enhance the quality of their writing. The program also helps students avoid getting stuck on difficult English words or idioms and maintain motivation while writing. Based on Fitria (2024), the following functionalities are available in Wordtune: 1. Word choice: Wordtune can offer better word suggestions based on writing style, coherence, and clarity, among other factors. 2. Grammar: Wordtune may fix errors in spelling, punctuation, and sentence construction. 3. Structural: Wordtune provides sentence themes, phrase layout, and paragraph division. 4. Style: Wordtune can offer advice on how to make writing more engaging, reduce clichés, and increase language proficiency. Wordtune is available online as an editor that runs on the web or as an extension for browsers. After the rewriting or word editing process is complete, the information can be exported or downloaded in a variety of forms, including text files, MS Word documents, and HTML files. Furthermore, Wordtune is a valuable tool with Free and Premium price options to assist authors in improving student writing skills. Every day, the Free plan includes ten rewrites to allow us to experiment with new phrase forms.

As the academic landscape evolves, the challenges and expectations surrounding students' English writing skills have become increasingly complex and multifaceted. Based on Helaluddin et al., (2020), establishing effective writing skills remains crucial in today's global society. Although writing is essential for students, the teaching and learning process of writing in the classroom does not run smoothly (Fitri et al., 2017). Developing writing skills has been recognized as a vital component in achieving proficiency in language learning (Vacalares et al., 2023). On the other hand, English language learners often face many obstacles that impede their progress in honing their writing abilities. Time constraints, motivation challenges, and a lack of targeted feedback can contribute to students' difficulties in developing their English writing skills (Song, 2023). Students may struggle with poor vocabulary knowledge, weak grammar grasp, and an inability to construct sentences effectively (Khalid & Yamat, 2022).

The differences in grammatical structures and sentence patterns between English and Indonesian are challenging for Indonesian learners in writing in English (Rakhmyta, 2022). The difference in structure often causes confusion and results in grammatical errors in the English they write. In addition, Indonesian students often experience difficulties writing in English due to their limited vocabulary. In Indonesian, there are several approaches to articulating a particular idea, while in English, there may only be a few specific phrases that effectively convey the intended meaning (Sakkir et al., 2023). Additionally, students have difficulty expressing their ideas effectively in written English due to limited vocabulary (Santillan & Daenos, 2020).

According to Li & Zeng (2019), vocabulary, grammar, and writing resources were identified as the key elements causing difficulties in academic writing. As a result, students still need help grasping the necessary writing skills. In addition, teacher-guided instructional activities intervene in students' writing challenges. (Ginting et al., 2021). Teachers' strategies for teaching writing materials cannot increase students' motivation and grasp of all elements of writing, such as grammar, vocabulary, general essay structure, etc. Based on that, writing is widely regarded as a skill with significant language education challenges. This is where technology can significantly impact overcoming students' English writing problems. The integration of technology-based solutions, such as AI-assisted writing tools, has been proposed to overcome specific language learning barriers, especially in time- and resource-constrained writing tasks.

Recent research has examined the effectiveness of these AI-assisted language learning aids in increasing students' writing skills and motivation. For instance, a research by (Song, 2023) examined the efficacy of the AI-powered tool ChatGPT in improving students' writing skills and motivation. On the other hand, this research responds to that need by evaluating the potential of Wordtune in supporting students' writing learning. Additionally, Fitria (2024) examined the effectiveness or performance of Wordtune in rewriting and

reordering English writing. Moreover, Al Mahmud (2023) investigated to what extent Wordtune facilitates students in writing.

Although various studies have looked into the usage of AI writing assistance, more research needs to be done, mainly on the use of Wordtune in an educational setting. As a result, the purpose of this study is to bridge this gap by thoroughly studying how Wordtune can help students learn to write. This study looks at how Wordtune's advanced features, such as sentence structure, vocabulary diversity, clarity, and style suggestions, can help students significantly enhance their writing skills. The findings of this research are intended to contribute to the advancement of writing learning in the digital era and provide practical advice for teachers on how to utilize technology to help students with their skills.

RESEARCH METHODOLOGY

The methodology that is utilized throughout the course of this investigation is that of quantitative research, which refers to a systematic and rigorous approach that emphasizes characterizes variables, tests their correlations, and determines cause-and-effect interactions between variables. In this study, the dependent variable is students' capacity to produce recount texts, whereas the independent variable is their use of Wordtune as digital writing assistance. The researcher intends to use an pre-experimental research approach to attain this purpose.

In accordance with Sugiyono (2014: 109), pre-experimental research is a design in which only one group or class receives a pretest or posttest without a control or comparison group. The experimental pretest-posttest paradigm assesses groups prior to and following treatment (Podesva & Sharma, 2014). Thus, by employing a strict experimental design, researchers can explore the complex relationships among the variables they are studying and, ultimately, explain how utilizing Wordtune as a medium affects students' writing abilities.

Table 2.1 Experimental Design

Pre - Test	Treatment	Post - Test
O ₁	X	O ₂

Population and Sample

As stated by Sugiyono (2019: 127), the sample is representative of the population's size and characteristics. The study focuses on the SMK-BM PAB 3 Medan Estate student class, particularly those in the 2023–2024 academic year in senior high school grade ten. A total of 22 students comprised the overall population, further split into two classes: those majoring in institutional financial accounting (AKL) and office administration of business institutions (MPLB). A total of eleven students are present in every class.

Meanwhile, it is crucial to remember that the sample under examination is an integral component of the population and has inherent qualities that make it appropriate for inquiry. Furthermore, a simple random sampling procedure was used to choose acceptable study participants. According to Sugiyono (2019: 129), Simple Random Sampling is the random taking of sample members from the population without regard to the strata in the population.

This technique, in turn, permitted the selection of 20 participants from the public as the sample, with numerous criteria applied to ensure the study participants' appropriateness. To acquire accurate and legitimate research results, it is critical to recognize the careful nature of the sampling process.

Instruments

The research instrument was an essay that assessed students' capacity to explain their thoughts clearly and convincingly. The researcher utilized a recount text as an essay to evaluate their writing skills. Additionally, in this research, the data from the pre-test and post-test were scored using writing scoring criteria adapted from Cohen's criteria (1994). According to Oshima & Hogue (2007), that students composing paragraphs utilize rubrics to examine format, punctuation and mechanics, content, organization, and grammar.

Table 2.2 Scoring Rubric of Recount Text

Aspect	Score	Level	Criteria
Content	5	Excellent	Very clear in changing ideas and the main ideas state accurately and clearly.
	4	Good	State the main ideas accurately and clearly, an opinion almost change clearly.
	3	Average	Unclearly main ideas, changing opinion statement is weak.
	2	Poor	The main ideas not accurate and clear, changing opinion statement is weak.
	1	Very Poor	Not accurate of main ideas, changing opinion statement is weak.
Grammar	5	Excellent	The complex structure is no errors and comprehensive control.
	4	Good	The structure is good control and nearly no errors.
	3	Average	The structure is equitable control and a bit of error.

	2	Poor	The structure is bad control and many errors.
	1	Very Poor	The structure is no control and errors.
Organization	5	Excellent	Coherent perfectly and organized well.
	4	Good	Coherent generally and equitable organized well
	3	Average	Logic but insufficient sequencing, main ideas clear and near organized.
	2	Poor	Less logical sequencing and disconnected ideas.
	1	Very Poor	Incoherent and no organized.
Vocabulary	5	Excellent	Effectively good in choosing words, idioms use, and word form.
	4	Good	Effective choosing words, idioms used, and word form.
	3	Average	Instruct choice of words but some missaply of word forms, idioms, and vocabulary.
	2	Poor	Missaply of word forms, idioms, vocabulary, and confusing word.
	1	Very Poor	Missaply of word forms, idioms, vocabulary, and confusing word.
Mechanics	5	Excellent	Understanding of punctuation and spelling.
	4	Good	Hardly any errors in punctuation and spelling.
	3	Average	Enough number of punctuation and spelling.
	2	Poor	Frequent errors in punctuation and spelling.
	1	Very Poor	No control over punctuation and spelling.

Data Collection and Data Analysis

Measuring approaches were employed to gather data for this research. Arikunto and Jabar (2009) describe measurement as comparing one object to a specific unit of measurement. The effectiveness of the writing learning process can be assessed using the evaluation procedure. In addition, the study was

extended by three days, and the pre-and post-test results were evaluated using Cohen's (1994) writing assessment criteria, which include content, grammar, organization, vocabulary, and mechanics. The researcher administered the pre-test to the students during the first meeting. The researcher introduced and showed Wordtune to the students at the next meeting. The researcher then assigned an assignment to the students, instructing them to produce recount text in groups of three paragraphs using Wordtune as an introduction and introductory exercise. At the end of the experiment, the researchers administered an individual post-test to assess Wordtune's effectiveness as a digital assistant in learning to recount text. Pre- and post-test data, which were then processed using the SPSS software, were used by the researcher to analyze the data. The outcomes of the pre-and post-tests were examined and contrasted by the researcher using paired samples.

Hypothesis

There are two types of research hypothesis employed in this study:

a) Null Hypothesis (H_0)

Based on the null hypothesis, there is no discernible difference in the writing skills of students when they use Wordtune as a digital writing assistant.

b) Alternative Hypothesis (H_a)

Based on the alternative hypothesis, students' writing skills are significantly impacted by using Wordtune as a digital writing assistant.

RESULT AND DISCUSSION

Result

To evaluate Wordtune's effect on students' English writing abilities in recount texts, the researcher employed t-test data analysis. This results in a total score comparison between the pretest and posttest tables.

Table 3.1 Pre - Test Score of Writing Analytical Aspects

Students	Components of Writing					Total
	Content	Grammar	Organiza tion	Vocabulary	Mechanics	
AHM	3	2	2	3	3	13
BSA	2	2	2	2	3	11
MH	2	1	2	2	2	9
MSV	3	2	3	3	3	13
NA	2	2	2	2	2	10
SR	3	2	3	3	3	14
TRA	1	1	1	1	1	5
HM	1	2	1	1	2	7
NJ	2	1	1	1	1	6
RA	2	2	2	3	3	12

NNK	1	1	1	1	2	6
TW	3	2	2	3	3	13
NTA	2	2	2	2	2	10
MH	1	1	1	1	2	5
RAS	2	1	2	2	3	10
P	4	3	3	3	3	16
CLS	2	2	2	2	3	11
NSP	2	1	1	1	2	7
RSH	3	3	3	3	3	15
NCS	3	2	2	2	3	12
Total Scores						205

As indicated in the table above, the data analysis shows that the pre-test had an overall score of 205, with the lowest score being five (5) and the highest being sixteen (16). The graph depicts the students' scores when they created recount texts before using Wordtune.

Table 3.2 Post - Test Score of Writing Analytical Aspects

Students	Components of Writing					Total
	Content	Grammar	Organiza tion	Vocabulary	Mechanics	
AHM	5	4	5	5	5	24
BSA	4	5	5	5	5	24
MH	4	4	4	4	5	21
MSV	5	5	5	4	5	24
NA	4	5	4	5	5	23
SR	5	5	5	5	5	25
TRA	4	4	4	4	5	21
HM	4	5	4	4	5	22
NJ	4	4	4	4	5	21
RA	5	5	4	5	5	24
NNK	4	5	4	4	5	22
TW	5	5	4	4	5	23
NTA	5	5	5	5	4	24
MH	5	4	4	4	4	21
RAS	5	4	5	5	5	24
P	5	5	5	5	5	25
CLS	4	5	5	4	5	23
NSP	5	4	4	4	5	22
RSH	5	5	5	5	5	25
NCS	5	5	5	5	5	25
Total Scores						463

As indicated in the table above, the data analysis revealed that the pre-test had an overall score of 463, with the lowest score being 21 and the highest being 25. This graph depicts the students' scores when they created the retelling text following the Wordtune treatment.

Hypothesis Test

The hypothesis test utilized to answer the given problem formulation is the paired sample t-test. Data was processed using SPSS statistics.

Paired Sample T-Test Results

The table below shows the results of the paired samples t-test, which was used to determine whether there was a difference between the pre-test and post-test data.

Table 3.3
Paired Samples Statistics Result
Pre Test and Post-Test students' writing performances using Wordtune

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test	10.2500	20	3.35410	.75000
	Post-Test	23.1500	20	1.46089	.32667

Table 3.1 shows the descriptive statistical results of the pre-test and post-test scores from the two samples tested. The pre-test value had an average or mean of 10.250. However, the post-test value had an average mean of 23.150, which was higher than the pre-test mean. The research sample size was 20 persons, with a standard deviation pre-test value of 3.354 and a standard deviation post-test value of 1.460...

Table 3.4
Paired Samples Statistics T-test Results
Pre-Test and Post-Test Students' writing performance using Wordtune

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pre-Test - Post-Test	-12.90000	2.17401	.48612	-13.91747	-11.88253	-26.536	19	.000

The probability value for pre-and post-test data is 0.000. The following conditions provide the basis for decision-making:

H₀ = Utilizing wordtunes as a digital writing assistant does not significantly influence students' writing ability.

H_a = Utilizing wordtunes as a digital assistant greatly influences students' writing ability.

Decision criteria:

a. Accept H₀ if Tcount < Ttable

b. Reject H₀ if Tcount > Ttable

According to the findings, the T-count value was 26.536, the T-table value was 2.093, and the probability value for the pre-and post-test data was 0.000. With a probability value of $0.000 < 0.05$, the value of $T\text{-count} > T\text{-table}$ is $26.536 > 2.093$. As a result, students' abilities to write recount texts are significantly impacted by using Wordtune as a digital writing assistant. So, alternative H_a is acceptable. In other words, the direct hypothesis 0 is rejected. This indicates that students' writing skills are greatly impacted by using Wordtune as a digital writing assistant.

Discussion

The discussion examines the potential advantages of utilizing Wordtune in the classroom and provides insights into its effective implementation. To accomplish this, the data was statistically evaluated (quantitative analysis using SPSS). This study employed the paired sample t-test to determine whether the averages before and after using the Wordtune application for writing skills were the same. The results revealed that, on average, the participating students improved when using the Wordtune tool, which was statistically significant. Furthermore, data analysis revealed that nearly all students achieved the success criteria by improving their writing in the five areas of content, grammar, organization, vocabulary, and mechanics. Therefore, this tool may assist students in expressing ideas or translating ideas into English while also enhancing the quality of their writing. (Zhao, 2023).

In contrast to Quillbot, Grammarly, and Wordtune, which are digital writing assistants, these three mainly utilize paper-based tasks. Wordtune offers extensive capabilities for modifying and structuring texts, whereas Quillbot concentrates on rewriting and paraphrasing sentences. Grammarly, on the other hand, aims to facilitate better content creation and enhance grammar. Wordtune, Quillbot, and Grammarly are all top-notch resources for improving student writing in English that use natural and compelling language. Their emphasis is distinct, so students may adapt their use to suit their individual requirements. Vacalares et al. (2023) state that digital technology has transformed how students learn many abilities, including writing.

This result is in line with previous research on how digital writing aids allow students to become better writers.: Barrot (2022), Rad et al. (2023), and Choo & Li (2017). As an instance, Rad et al. (2023), who investigated how AI

could improve students' writing abilities, found that the experimental group that utilized Wordtune to help with their writing significantly improved their writing abilities in comparison to the control group, who did not use Wordtune. Furthermore, Zhao et al. (2024) propose that further investigation be done into how students use digital writing tools for their writing practice and how this impacts their learning. This understanding can serve as the foundation for more thorough assistance given to students in assessing and using digital writing tools, enabling them to do so ethically and successfully. Students would greatly benefit from precise guidance on the dos and don'ts.

Furthermore, compared to previous research, Fitria (2024) examined the effectiveness or performance of Wordtune in rewriting and rephrasing English writing. Employing a qualitative descriptive methodology, the study's findings inform conclusions and guide future actions. The researcher describes the data methodically, which is very useful for students who want to improve their writing clarity and polish. In contrast to Al Mahmud (2023), This study combined methods to investigate whether and how much Wordtune aids students in their writing. Quantitative statistics show that after using Wordtune, the experimental group's writing skills increased, and they fared better than the control group in the final writing exam. Meanwhile, the qualitative data revealed that the experimental group achieved moderate lexical and syntactic improvements in their writing after using Wordtune. Based on this, for the novelty of the previous research, this research brings the same digital writing tool, wordtune. Still, the difference is in the aspects to be studied. Namely, the researcher will focus on examining the effectiveness of word tune on several elements of paragraph writing, namely content, grammar, organization, vocabulary, and mechanics. Therefore, the researcher hopes that this study can support previous research by providing more detailed information about using Wordtune in the learning process to enhance students' English writing.

Lastly, this study has limitations, such as only using one class variation, namely the experimental class, which adjusts to the research method. The sample size is minimal. Therefore, it may not be generalizable to larger groups. However, the study was conducted using rigorous and thorough methodology, which increased the reliability of our findings. Despite these limitations, this study contributes significantly to readers' understanding of the topic. So, the authors hope this research will encourage more investigation in this field of study.

CONCLUSION

This study proves that Wordtune, a digital writing assistant powered by artificial intelligence, can enhance students' writing skills. Additionally, the findings show that Wordtune is helpful for students in several areas of writing, such as grammar, word selection, and sentence structure. Furthermore, Wordtune's interactive nature encourages active participation in the writing

process, resulting in a better comprehension of grammar, making writing more effective and productive. Students who used Wordtune performed significantly better on writing tests than those who had not used Wordtune previously.

As a result, Wordtune has evolved into an invaluable tool for students to improve their writing abilities. The ability to provide real-time feedback and personalized services assists students in identifying and enhancing their problems and improving their understanding and coherence of the material. Based on this, Wordtune is recommended as an effective tool and innovative solution for enhancing students' writing abilities. Using Wordtune in English language learning can help students achieve their full potential. Ultimately, it is envisaged that more research will be required to examine Wordtune's efficacy across various settings and student groups to expand and improve this related field of study.

AKNOWLEDGMENT

The journal is meant to replace the thesis requirement for a bachelor's degree in the English Education Study Program at Universitas Muhammadiyah Sumatera Utara's Faculty of Teacher Training and Education. First and foremost, the author is grateful to Allah SWT for providing the grace and direction needed to finish this research. The author would also like to thank her parents for their prayers, support, and love. The author would also like to thank Mr. Pirman Ginting, S.Pd., M.Hum., for his invaluable assistance, direction, and patience. The author would also like to thank everyone who participated in this research, especially my friends, who have always been kind and encouraging. The research will be helpful.

REFERENCES

- Al Mahmud, F. (2023). Investigating EFL Students' Writing Skills Through Artificial Intelligence: Wordtune Application as a Tool. *Journal of Language Teaching and Research*, 14(5), 1395-1404. <https://doi.org/10.17507/jltr.1405.28>
- Barrot, J. S. (2022). Integrating Technology into ESL/EFL Writing through Grammarly. *RELC Journal*, 53(3), 764-768. <https://doi.org/10.1177/0033688220966632>
- Choo, Li, Y. B. K. L. (2017). ARIEL An International Research Journal of Language and Literature 27 (2016) 27- 60 <http://sujo.usindh.edu.pk/index.php/ARIEL>. *An International Research Journal of Language and Literature*, 27(28), 1-16. [Google Scholar](#)
- Creswell, J. W. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. pearson. <https://thuvienso.hoasen.edu.vn/handle/123456789/12789>

- Fitri, I., Eripuddin, & Rahayu, P. (2017). An analysis of the students' skill in writing descriptive text at the eighth grade of Smpn 7 Tambusai Utara. *Neliti*, 3(1), 1–6. <https://media.neliti.com/media/publications/109729-EN-an-analysis-of-the-students-skill-in-wri.pdf>
- Fitria, T. N. (2024). *Using Wordtune As An Ai-Powered Writing Tool How Is The Performance In Review And Rephrase English Writing?* 6(1), 117–149. [Google Scholar](#)
- Ginting, P., Hasnah, Y., & Utami, D. S. (2021). Enhancing Students' Critical Thinking in Writing Through Group Investigation Strategy Assisted by Digital Story Board Media. *IJET (Indonesian Journal of English Teaching)*, 10(1), 112–125. <https://doi.org/10.15642/ijet2.2021.10.1.112-125>
- Helaluddin, Wijaya, H., Nurmaidah, Vonny Rante, S. N., Tulak, H., & Guntur, M. (2020). A Need Analysis in Academic Writing by Using Integrative-Based Approach: The Perspective of University Students. *Advances in Social Science, Education and Humanities Research*, 461. <https://www.atlantispress.com/proceedings/icllae-19/125942890>
- Holmes, W., Anastopoulou, S., Schaumburg, H., & Mavrikis, M. (2018). Technology-enhanced Personalised Learning: Untangling the Evidence. *Open Research Online, August*, 116. <http://www.studie-personalisiertes-lernen.de/en/>
- Laili, E. N., & Muflihah, T. (2020). the Effectiveness of Google Classroom in Teaching Writing of Recount Text for Senior High Schools. *Journal of Languages and Language Teaching*, 8(4), 348. <https://doi.org/10.33394/joltt.v8i4.2929>
- Li, J., & Zeng, L. (2019). Investigation into and analysis of the current situation of academic english writing of hlp postgraduates: A case study from a chinese university. *Journal of Language Teaching and Research*, 10(5), 979–988. <https://doi.org/10.17507/jltr.1005.09>
- Limna, P., Jakwatanatham, S., Siripipattanakul, S., Kaewpuang, P., & Sriboonruang, P. (2022). A Review of Artificial Intelligence (AI) in Education during the Digital Era. *Advance Knowledge for Executives*, 1(1), 1–9. <https://ssrn.com/abstract=4160798>
- Mogavi, R. H., Deng, C., Kim, J. J., Zhou, P., Kwon, Y. D., Metwally, A. H. S., Tlili, A., Bassanelli, S., Bucchiarone, A., Gujar, S., Nacke, L. E., & Hui, P. (2023). *Exploring User Perspectives on ChatGPT: Applications, Perceptions, and*

- Norizarina Mohd Khalid, H. Y. (2022). Constructing Sentences for Narrative Writing Using Wh-Questions among Rural Primary Year 6 Students. *International Journal of Academic Research in Business and Social Sciences*, 189 - 204. Received from dari <http://dx.doi.org/10.6007/IJARBS/v12-i3/12859>
- Oshima, A., & Hogue, A. (2007). Introduction to Academic Writing : Answer Key. In *Pearson Education Limited*. https://edisclipnes.usp.br/plueginefile.php/3928474/mod_resource/content/1/IntroductiontoAcademicWriting.pdf
- Podesva, R. J., & Sharma, D. (Eds.). (2014). *Research methods in linguistics*. Cambridge University Press. [Google Scholar](#)
- Rad, H. S., Alipour, R., & Jafarpour, A. (2023). Using artificial intelligence to foster students' writing feedback literacy, engagement, and outcome: A case of Wordtune application. *Interactive Learning Environments*, 1-21. <https://doi.org/10.1080/10494820.2023.2208170>
- Rakhmyta, Y. A. (2022). English Learning Difficulties At Smp Negeri 23 Takengon During The Pandemic. *Jurnal Mahasiswa Ilmu Budaya*, 3(8.5.2017), 2003–2005. <https://dataindonesia.id/sektor-riil/detail/angka-konsumsi-ikan-ri-naik-jadi-5648-kgkapita-pada-2022>
- Sakkir, G., Rukmana, N. S., Muslim, A. B., Andrew, M., & Muhayyang, M. (2023). The Challenges faced by Students in Learning English (Post-Pandemic Era). *Interference: Journal of Language, Literature, and Linguistics*, 4(1), 111. <https://doi.org/10.26858/interference.v4i1.43966>
- Santillan, J. P., & Daenos, R. G. (2020). Vocabulary Knowledge and Learning Strategies of Senior High School Students. *Universal Journal of Educational Research*, 8(6), 2474–2482. <https://doi.org/10.13189/ujer.2020.080631>
- Shi, S., Zhao, E., Tang, D., Wang, Y., Li, P., Bi, W., Jiang, H., Huang, G., Cui, L., Huang, X., Zhou, C., Dai, Y., & Ma, D. (2022). *Effidit: Your AI Writing Assistant*. 1–16. <http://arxiv.org/abs/2208.01815>
- Suman, R. S., Moccia, S., Chinnusamy, K., Singh, B., & Regin, R. (Eds.). (2023). *Handbook of research on learning in language classrooms through ICT-based digital technology*. IGI Global.
- Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL

students. *Frontiers in Psychology*, 14(December), 1–14.
<https://doi.org/10.3389/fpsyg.2023.1260843>

Sophomore Talle Vacalares, Elmar Clarin, Reyniel Lapid, Michael Malaki, Vensar Plaza, & Madjid Barcena. (2023). Factors affecting the writing skills of the education students: A descriptive study. *World Journal of Advanced Research and Reviews*, 18(2), 1192–1201.
<https://doi.org/10.30574/wjarr.2023.18.2.0931>

Su, Z., Miao, L., & Man, J. (2019). Corrigendum: Artificial Intelligence Promotes the Evolution of English Writing Evaluation Model (2019 IOP Conf. Ser.: Mater. Sci. Eng. 646 012029). *IOP Conference Series: Materials Science and Engineering*, 646(1), 012068. <https://doi.org/10.1088/1757-899x/646/1/012068>

Vacalares, S. T., Clarin, E., Lapid, R., Malaki, M., Plaza, V., & Barcena, M. (2023). Factors affecting the writing skills of the education students: A descriptive study. *World Journal of Advanced Research and Reviews*, 18(2), 1192–1201. <https://doi.org/10.30574/wjarr.2023.18.2.0931>

Winans, M. D. (2021). Grammarly's Tone Detector: Helping Students Write Pragmatically Appropriate Texts. *RELC Journal*, 52(2), 348–352.
<https://doi.org/10.1177/00336882211010506>

Yoandita, & Yenni Hasnah. (2024). Quillbot As an Alternative Writing Tool: Examining Its Uses on the Academic Writing Performance of Efl Learners. *Esteem Journal of English Education Study Programme*, 7(2), 401–412.
<https://doi.org/10.31851/esteem.v7i2.15254>

Zhao, X. (2023). Leveraging Artificial Intelligence (AI) Technology for English Writing: Introducing Wordtune as a Digital Writing Assistant for EFL Writers. *RELC Journal*, 54(3), 890–894.
<https://doi.org/10.1177/00336882221094089>

Zhao, X., Hu, J., & Cox, A. (2024). Incorporating Artificial Intelligence into Student Academic Writing in Higher Education : The Use of Wordtune by Chinese international students. *Proceedings of the 57th Hawaii International Conference on System Sciences*, 1, 2726–2735.
<https://doi.org/10.17507/jltr.1405.28>