Assessing the Efficacy of Wordtune in Enhancing Academic Writing: A Quasi-Experimental Study with English Majors

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bstract:

Wordtune is an artificial intelligence -powered writing tool designed to enhance users' writing skills. Although AI- powered writing tools are gaining attention in education, research on their impact on EFL learners' writing skills remains limited, especially in the Libyan context. Therefore, this study aimed to examine the impact of Wordtune on the academic writing of English majors during the 2024/2025 academic year. A quasi-experimental design was employed, with 51 participants from the English Department at the Faculty of Education, Misurata University, Libya. The participants were divided into two groups: an experimental group (n = 31) and a control group (n = 20). Data were collected through pre- and post-tests. The results revealed that the experimental group outperformed the control group, indicating that Wordtune significantly improved students' writing performance. Based on these findings, the study recommends integrating Wordtune into classroom instruction to support writing development.

Keywords: Artificial intelligence, Wordtune, academic writing, English majors

المُلخَّص:

Wordtune هي أداة كتابة مدعومة بالذكاء الاصطناعي مصممة لتعزيز مهارات الكتابة لدى المستخدمين. على الرغم من تزايد الاهتمام بأدوات الكتابة المدعومة بالذكاء الاصطناعي في مجال التعليم، إلا أن الأبحاث حول تأثيرها على مهارات الكتابة لدى متعلمي اللغة الإنجليزية كلغة أجنبية ما زال محدودًا، خاصة في السياق الليبي. لذلك، هدفت هذه الدراسة إلى تقييم أثر استخدام الأداة Wordtune على الكتابة الأكاديمية لطلاب التخصصات الإنجليزية خلال العام الدراسي 2024/2025. تم استخدام تصميم شبه تجريبي، بمشاركة 51 طالباً وطالبة من قسم اللغة الإنجليزية في كلية التربية بجامعة مصراتة، ليبيا. تم تقسيم المشاركين إلى مجموعتين: مجموعة تجريبية (31 = n) ومجموعة ضابطة (20 = n). تم جمع البيانات من خلال اختبارين: قبلي (pre-test) وبعدي (post-test). كشفت النتائج أن أداء المجموعة التجريبية كان أفضل بشكل ملحوظ من أداء المجموعة الضابطة، مما يشير إلى أن الأداة Wordtune قد حسّنت أداء الطلاب في الكتابة تحسينًا كبيرًا. بناءً على هذه النتائج، توصي الدراسة بدمج الأداة Wordtune في التدريس داخل الفصول الدراسية لدعم تطوير مهارات الكتابة.

الكلمات المفتاحية: الذكاء الاصطناعي، Wordtune، الكتابة الأكاديمية، طلاب التخصصات الإنجليزية.

1. Introduction

Over the years, the need for a common language among speakers of different linguistic backgrounds has been significant. Undoubtedly, English has become a global lingua franca, widely used and recognized today (Rao, 2019). As a dominant medium of international communication, English enables interaction between individuals who do not share a native language.

The process of learning English has been influenced by various factors, particularly technological advancements such as AI-powered tools, which facilitate continuous practice and provide immediate feedback. Consequently, students become more engaged and motivated, while classrooms transform into dynamic environments enriched with interactive and meaningful activities. Patel (2013) argues that technology has enhanced English language teaching and learning by offering diverse methods to make lessons more interactive and effective, thereby improving learners' proficiency. Similarly, Dandu et al. (2024) emphasize that AI tools have revolutionized English language learning by maintaining student engagement, fostering collaboration, and increasing enthusiasm for learning activities, especially in English Foreign Language contexts (p. 2).

Recent advancements in AI have enabled students to develop their English language skills—speaking, writing, listening, and reading—more rapidly and efficiently (Biletska et al., 2021). However, in EFL contexts such as Libya, many students continue to struggle with writing skills, unlike speaking and listening, which they acquire more easily. Based on the researcher's observations, students frequently encounter difficulties with grammatical errors, spelling mistakes, inappropriate vocabulary usage, and poorly structured sentences. Even English majors face these challenges when composing paragraphs, essays, and research papers.

Mastering academic writing is crucial for undergraduate English majors, as most of their coursework—including Writing I & II, Academic Writing, Creative Writing, and Research Methods—requires strong writing skills. Additionally, proficiency in academic writing is essential for graduate projects, future careers, and postgraduate studies (e.g., master's or PhD programs). Although the role of technology and AI in language learning has gained attention in Libya, limited research has explored the effectiveness of advanced AI-powered writing assistants. For instance, Eragamreddy (2024) conducted an experimental study at the University of Sebha in Zuwila to assess the impact of Grammarly and ProWritingAid on

improving grammar and sentence structure. Similarly, Abolkasim and Hasan (2024) investigated perceptions of ChatGPT across Libyan universities, while Baroud et al. (2024) examined University of Zawia faculty members' attitudes toward AI tools such as ChatGPT, Duolingo, and EndNote.

These studies inspired the current research, which focuses on AI's role in enhancing students' writing performance. To the best of the researchers' knowledge, no prior studies have specifically examined the impact of Wordtune on academic writing in Libya. According to Fadil et al. (2024), Wordtune is an AI-powered writing assistant that helps users rephrase text by modifying sentence structure or suggesting synonyms while preserving the original meaning.

Thus, this study aims to investigate the impact of Wordtune on the academic writing development of Libyan university students. By addressing this gap in the literature, the research seeks to provide valuable insights into how Wordtune can enhance English language learning and improve academic writing outcomes within Libya's educational system.

1.1. Statement of the Problem

In the Libyan context, University instructors still employ traditional methods, teacher-centred-grammar and memorization in teaching English language over communication and critical thinking. This supports by Elabbar (2011) who claims that Libyan University instructors still tend to use traditional methods to teach English due to their cultural background, their way of learning English when they were students, and limited instructors training.

In particular, writing skill is still taught in many EFL classes including the Libyan classes in traditional methods. Product approach is one of the most common and traditional ways in Libyan Universities to teach writing and give feedback which focuses on the students' knowledge of language rules, such as grammar, vocabulary use, and how to link ideas (Tribble, 2003, as cited in Suwaed,2011, p.50). A key factor contributing to this reliance on this traditional approach is the challenge of delivering individualized corrective feedback which can be time-consuming in large classes.

To address these limitations, this study investigates the impact of Wordtune, an AI-powered writing tool, on the writing skills of English majors compared to traditional instructional methods. Wordtune was selected for its capacity to provide immediate, interactive writing feedback.

As no previous research has examined the impact of Wordtune as an AI-powered writing assistant with in the Libyan context. Thus, this study aims to fill this gap by evaluating Wordtune's effectiveness as a writing aid.

1.2. Research Objectives and Questions

The main objective of this study is to assess the impact of Wordtune on students' academic writing skills. To address this objective, the following research question guides the investigation:

1. What is the impact of Wordtune on improving students' academic writing skills?

1.3. Significance of the Study

This study holds significance due to the growing integration of AI in English language teaching, particularly in writing skill development. By examining Wordtune's impact on academic writing performance, the findings drawn from this study supposed to:

- Provide valuable insights for educators helping them understand the potential benefits and limitations of AI-based writing tools.

- Inform policy decisions regarding AI integration into EFL curricula.

- Contribute to strategies for enhancing student writing outcomes.

1.4. Scope of the Study

The study was conducted at the Faculty of Education, Misurata University (Libya) during the 2024/2025 academic year. Participants included 51 fourth-semester students enrolled in an academic writing course, divided into an experimental group (Wordtune users) and a control group (traditional methods).

The scope is limited to:

- Assessing Wordtune's impact on writing skills (e.g., grammar, coherence, vocabulary).

- Excluding other language skills (e.g., speaking/listening) or comparisons with other AI tools.

-Including Only Faculty of Education in Misurata University. It does not extend to other Universities such as Faculty of Arts, Languages University, and Translation University.

2.1. Theoretical Framework

2.1.1. Writing Development and Teaching Methods

Writing is regarded as one of the most complex skills in language learning, requiring students to express their ideas clearly and coherently. The teaching methods instructors employ play a crucial role in helping students master writing skills and improve their performance. Baisov (2021, as cited in Pinto Abrill, 2024) emphasizes that teachers must adapt their instructional approaches to accommodate linguistic, cultural,

and individual differences. Similarly, Terrell (2022) argues that the primary goal of teaching writing is to enable EFL learners to communicate effectively across various text types in the target language.

To enhance students' writing proficiency, educators must continually refine their teaching strategies, ensuring clarity and effectiveness in conveying ideas. In today's technological era, integrating advanced AI-powered writing tools into traditional instruction can facilitate the learning process and address challenges faced by both teachers and students.

2.1.2. The Process Writing Approach

The Process Writing Approach (Flower & Hayes, 1981; Hayes, 1996; Zamel, 1983) constitutes the principal theoretical framework for this study. It fundamentally reorients the focus of writing pedagogy from the final textual artifact to the cognitive and recursive processes inherent in its construction. Central tenets of this approach encompass:

1.Writing as a Processual Activity: This tenet emphasizes that writing is a complex, non-linear, and cognitively demanding endeavor comprising multiple, often iterative, compositional phases, rather than the mere production of a correct final output.

2.Recursive Progression: Writers engage in cyclical navigation through core compositional stages:

- Encompassing idea generation, research, outlining, and goal setting.

-Planning/Pre-writing: Drafting: Formulating initial expressions of ideas, prioritizing content and structural development over linguistic precision.

-Revising: Re-evaluating content and structure to implement substantive modifications concerning meaning, argumentation, organization, and development (e.g., addition, deletion, rearrangement).

-Editing: Addressing surface-level features, including grammar, syntax, punctuation, lexical choice, spelling, and formatting.

-Reflection/Publishing: Evaluating the efficacy of both the writing process and the resultant text.

3.Iterative Draft Production: Advocates for the generation of multiple drafts, acknowledging that quality writing evolves through progressive refinement and revision.

4.Writer-Centered Cognition: Recognizes the writer's internal cognitive mechanisms (planning, ideational translation, reviewing) and underscores the significance of cultivating the writer's voice, strategic repertoire, and metacognitive awareness.

5.Feedback and Collaborative Engagement: Highlights the critical function of formative feedback (derived from peers, instructors, or technological tools) at various compositional stages. This feedback assists writers in adopting a reader's perspective and identifying areas necessitating improvement.

6.Metacognitive Development: Aims to enhance writers' conscious awareness and strategic control over their own compositional processes.

2.1.2.1. Integration of Wordtune within the Process Writing Framework

Wordtune, an AI-powered writing assistant specializing in real-time sentence-level rephrasing and lexical enhancement, can be methodically integrated within the Process Approach stages to scaffold the academic writing development of English as a Foreign Language (EFL) learners:

1.During the Drafting Phase:

-Mitigating Affective Barriers and Enhancing Fluency: The apprehension associated with grammatical inaccuracies frequently impedes drafting fluency among EFL learners. Wordtune facilitates the preliminary articulation of ideas, enabling students to prioritize conceptual expression with the assurance that suggestions for enhanced clarity and accuracy are subsequently accessible. This aligns with the Process Approach's principle of differentiating content generation from linguistic refinement in initial drafts.

-Addressing Lexical Deficits: When learners encounter lexical retrieval difficulties, Wordtune provides immediate alternative formulations, thereby supporting sustained compositional flow and enabling more precise articulation of intended meaning during drafting.

2.During the Revising and Editing Phases:

-Prioritizing Higher-Order Revision: By mitigating cognitive demands associated with identifying awkward phrasing, lexical repetition, or syntactic ambiguity, Wordtune enables students to allocate greater cognitive resources to higher-order revision tasks central to the Process Approach: fortifying arguments, optimizing organizational structure, enhancing idea development, and ensuring textual coherence. Wordtune thus functions as an initial evaluative mechanism for sentence-level clarity.

-Augmenting Linguistic Precision and Sophistication: Wordtune furnishes immediate, context-sensitive feedback on grammaticality, lexical appropriateness, and syntactic construction. The necessity for students to actively evaluate and select among alternative expressions fosters critical assessment of linguistic choices, thereby directly supporting linguistic development within the recursive revision cycle.

-Facilitated Learning via Contrastive Analysis: Exposure to multiple phrasings of the same proposition familiarizes students with diverse grammatical structures and academic lexicon, implicitly instructing them in linguistic variation and stylistic nuance essential components of writing competence development.

3.Supporting Reflective Practice and Metacognition:

-Critical Analysis of Linguistic Choices: The process of reviewing modifications implemented via Wordtune prompts students to critically reflect on their rationale for selecting specific phrasings, thereby deepening their comprehension of effective academic discourse.

-Identification of Recurring Linguistic Patterns: Students may discern persistent issues highlighted or reformulated by Wordtune (e.g., lexical overuse, passive voice prevalence, sentence boundary errors), aiding in the identification of individual linguistic challenges for targeted improvement.

-Development of Internalized Standards: Sustained interaction with Wordtune's suggestions assists learners in progressively internalizing evaluative criteria for clarity, conciseness, and academic register.

The Process Writing Approach provides a robust theoretical foundation for conceptualizing the effective utilization of Wordtune to support EFL academic writing development. Strategic integration of this tool within the recursive drafting, revising, and editing phases offers significant potential to scaffold linguistic challenges, reduce cognitive load, promote drafting fluency, enhance linguistic accuracy and sophistication, and foster reflective practice and metacognitive awareness. This integration positions Wordtune not as a circumvention of the writing process, but as a dynamic instrument within the writer's process. It assists learners in navigating the complexities of L2 academic composition while progressively cultivating greater autonomy and competence. Prudent pedagogical implementation is paramount to ensure Wordtune functions as a supplementary aid that reinforces the core tenets of the Process Approach, specifically learner agency, critical engagement, and iterative refinement.

2.2. Empirical Framework

AI-powered writing assistants such as Grammarly, QuillBot, and Wordtune are transforming how students develop writing skills by providing real-time feedback on grammar, vocabulary, and organization. This section reviews empirical studies investigating Wordtune's role in enhancing writing proficiency.

2.2.1. Wordtune AI-Powered Writing Assistant Tool

Etaat (2024) examined the impact of AI writing tools, including Wordtune and InstaText, on Iranian students' English writing improvement. This study inspired the current research, as preliminary experimentation with Wordtune revealed its potential utility. Notably, empirical research on Wordtune remains limited, highlighting the novelty of this investigation.

Etaat's (2024) study employed writing tests (pre-test, post-test, and six progress tests), teacher and student attitude questionnaires, and time-on-task measurements. Results indicated that students using Wordtune and InstaText demonstrated greater writing improvement and completed tasks more efficiently. Both teachers and students expressed positive attitudes toward integrating such tools into writing instruction.

While Etaat's (2024) study parallels the current research in examining AI tools' effects on writing development, the present study focuses exclusively on Wordtune within the Libyan context.

Al Mahmud's (2023) mixed-methods study in Saudi Arabian high schools explored Wordtune's impact on EFL students' writing skills. Quantitative data were derived from pre- and post-tests, while qualitative data came from student writing samples. Although this study aligns with the current research in investigating Wordtune's effects, the Libyan study adopts a purely quantitative approach.

Fadli et al. (2024) conducted a quasi-experimental study to assess Wordtune's influence on academic writing skills using pre- and post-tests and questionnaires. Findings revealed that Wordtune significantly enhanced students' writing through features like rewrite, shorten, expand, and formalize, improving textual coherence and sentence structure. This study closely mirrors the present research in methodology and research questions, though it was conducted in a different educational setting.

In contrast, Fitria's (2024) qualitative study analyzed Wordtune's capabilities in rewriting and rephrasing English texts. Data from written documentation highlighted the effectiveness of Wordtune's features (rewrite, expand, shorten, formal/casual tones, and smart synonyms). The current study differs by employing a quantitative design with a sample of 51 fourth-semester English majors enrolled in an academic writing course.

3. Methodology

3.1. Research Design

This study employed a quasi-experimental design to collect its data, which is commonly used when it is not possible to assign students to groups. Instead the researchers use the pre-existing groups on real life situations to form comparison Harries et al. (2006). The control group received traditional academic writing instruction, while the experimental group used the Wordtune AI writing assistant alongside their lessons. Pre-test and post-test were administered to both groups to collect quantitative data.

3.2. Research Participants

The study was conducted during the 2024–2025 academic year at the Faculty of Education, Misurata University. Using purposeful samples two groups were selected since they shared similar learning environments, prior coursework (Writing I & II), and writing proficiency levels to ensure comparability. Moreover, these groups were chosen by the researchers as they had larger number of the students compared to the third group.

The total number of the participants consisted of 51 fourth-semester undergraduate English majors enrolled in an academic writing course, divided into:

- Experimental group: 31 students (Wordtune-assisted instruction)
- Control group: 20 students (traditional instruction)

3.3. Research Setting

The study took place at the Faculty of Education, Misurata University, Libya. As this study is an experimental and requires a quasi- experimental design, thus two groups were needed. Three groups were available at Faculty of Education with high number of the students. In contrast to other Universities such as Faculty of Arts has only one group of academic writing course with a small number of the students and dividing this group into two groups may cause inconvenient to both the course instructors and students.

3.4. Research Instruments

Quantitative data were collected through pre-test and post-test scores, aligned with the research question. The pre- test and post- test of the current study were designed by the researchers based on academic writing course objectives and Wordtune's features to assess the students' levels before and after the intervention. The tests included four sections: writing a short paragraph, summarizing, paraphrasing, and using proper punctuation. Tests were scored by the researchers firstly, then reviewed by the course instructor to avoid bias. It is noteworthy that the researchers and the course instructor followed Jacobs et al.'s (1981) rubric in the evaluation (see Appendix A).

3.5. Data Collection Procedure

The data collection for this study commenced in March 2025, beginning with a pre-test administered to fourth-year EFL students at the Faculty of Education, Misurata University, Libya. Completion of the pre-test required approximately 30 to 60 minutes. This instrument assessed participants' baseline writing skills during the initial lecture.

Following the pre-test, a four-week intervention phase commenced. The first session, held on April 5th, included a researcher-led presentation introducing the Wordtune writing assistant tool to the experimental group. Prior to the intervention, the researchers met and demonstrated Wordtune's functions to the course instructor in order to be familiar with its features.

To ensure effective tool usage, the researchers provided internet access during all sessions. After the course instructor delivered the paraphrasing lesson, one of the researchers demonstrated Wordtune using an example from the lesson. The example was " Effective teaching strategies are essential for fostering student engagement and learning".

A sentence containing intentional spelling and grammatical errors was paraphrased by the researchers, " using approprite teaching methods help students to become interest and learn better", and then illustrating how Wordtune enhanced writing through features such as proofreading, rewriting, expanding, and shortening.

Close collaboration occurred between the researchers and the course instructor throughout the intervention to avoid subjectivity. Specifically, one of the researchers attended all lectures, working alongside the instructor to guide students in using Wordtune. The instructor assisted by motivating students to utilize the tool in writing tasks and clarifying explanations as needed.

Over the subsequent three weeks, the experimental group engaged in practical writing sessions. Weekly academic writing assignments focused on summarizing, paraphrasing, and composing short paragraphs. On April 12th and 19th, students completed paraphrasing and summarizing exercises using texts selected by the course instructor (see Appendix B and C). The instructor regularly consulted the researchers on task selection, sharing proposed materials and requesting feedback to ensure alignment with study objectives.

The final session, conducted on April 26th, required students to write a short paragraph on one of the instructor-selected topics: (1) Classroom activities and their role in motivating students, (2) teachers' feedback and its role in developing writing skills, and (3) the importance of vocabulary in improving students' academic performance (see appendix D). During each session, students first completed writing tasks independently without AI tools or dictionaries to promote autonomous thinking and writing.

Subsequently, they were encouraged to revise their work using Wordtune. This process aimed to help students identify errors, improve their writing, and develop revision skills.

In contrast, the control group completed identical writing tasks using only teacher feedback. Their academic writing instruction continued via traditional methods without AI tool integration.

The post-test, administered to all 51 participants (both groups) on May 3rd, required one to two hours for completion. Identical writing tasks included four questions: (writing a short paragraph, summarizing, paraphrasing, and using proper punctuation), and the same evaluation criteria (Jacobs et al.'s (1981) rubric) were used to ensure consistency with the pre-test and facilitate direct comparison of writing performance between groups. The researchers graded all tests within one week, with subsequent review and confirmation by the course instructor.

4. Results

To address the research question, both groups completed pre- and post-tests assessing academic writing skills. Writing performance was evaluated using Jacobs et al.'s (1981) rubric (see Appendix A), which measures five key components:

- Content
- Organization
- Vocabulary
- Language use
- Mechanics

The comparative analysis of both groups' performance before and after the intervention provides insights into the effectiveness of integrating Wordtune in academic writing instruction.

4.1 Statistical Comparison of Pre-Test Scores Between Groups

A statistically significant difference in mean scores was defined as $p < .05$. Conversely, a non-significant difference ($p > .05$) was observed between the control and experimental groups' pre-test mean scores.

Table 1 Statistical Comparison of Pre-Test Scores Between Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.655	0.422	-0.055	49	0.957	-0.10484	1.91427	-3.95171	3.74203
Equal variances not assumed			-0.056	44.089	0.955	-0.10484	1.86541	-3.86411	3.65443

The independent samples t-test comparing pre-test scores between experimental and control groups revealed no significant difference in students' overall writing skills ($p = .957, > 0.05$). This indicates that both groups demonstrated equivalent academic writing proficiency at the study's outset.

4.2 Statistical Comparison of Post-Test Scores Between Groups

The post-test analysis showed statistically significant differences between groups. The experimental group demonstrated superior writing performance compared to the control group ($p < 0.05$). This improvement can be attributed to the integration of Wordtune in classroom instruction, suggesting the tool's positive impact on academic writing development.

Table 2 Statistical Comparison of Post-Test Scores Between Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	**Sig.**	**T**	**Df**	**Sig. (2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
								Lower	**Upper**
Equal variances assumed	1.153	0.288	4.787	49	0.000	9.39355	1.96242	5.44992	13.33718
Equal variances not assumed			4.613	35.713	0.000	9.39355	2.03624	5.26271	13.52439

This result is statistically significant ($p < 0.05$), suggesting that the observed difference in group performance may be attributed to the independent variable (the use of Wordtune).

4.3 Paired Samples Correlations (Experimental Group)

The correlation between pre-test and post-test scores in the experimental group was weak and negative (r = [0.245], p = 0.184, p >0.05), suggesting that students' pre-test scores did not predict their post-test scores, possibly due to the varying level of individual progress after the intervention. However, this correlation does not assess mean differences

Table 3 Paired Samples Correlations (Experimental Group)

		N	**Correlation**	**Sig.**
Pair 1	**Pre-test & Post-test**	31	-0.245	0.184

4.4 Paired Samples Test (Experimental Group)

Despite the low correlation, the paired sample t-test results and descriptive statistics for the experimental group are presented in Table 4. A statistically significant difference was found between the two tests (t =

-6.111, $df = 30$, p < 0.000), indicating that the intervention had a strong positive impact on students' academic writing performance.

Table 4 Paired Samples Test (Experimental Group)

		Paired Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	Df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	**Pre-test/ Post-test**	-11.54839	10.52248	1.88989	-15.40806	-7.68871	-6.111	30	0.000

4.5 Control Group Performance

Paired samples correlation analysis showed a weak negative relationship between pre- and post-test scores in the control group (r = -.21, p = .283). This non-significant correlation suggests minimal change in writing performance without the intervention.

Table 5 Paired Samples Correlations (Control Group)

		N	Correlation	Sig.
Pair 1	**Pre-test& Post-test of the control group**	20	-0.153	0.518

To visually illustrate the performance difference between the control and experimental groups, Figure 1 compares both groups' pre- and post-test results. As shown, the bars representing mean post-test scores are substantially higher than pre-test scores. Notably, the control group's performance remains lower than the experimental group's. These results reinforce that integrating Wordtune into classroom instruction improves students' overall writing skills.

These findings reinforce that Wordtune integration corresponds with measurable improvements in academic writing skills.
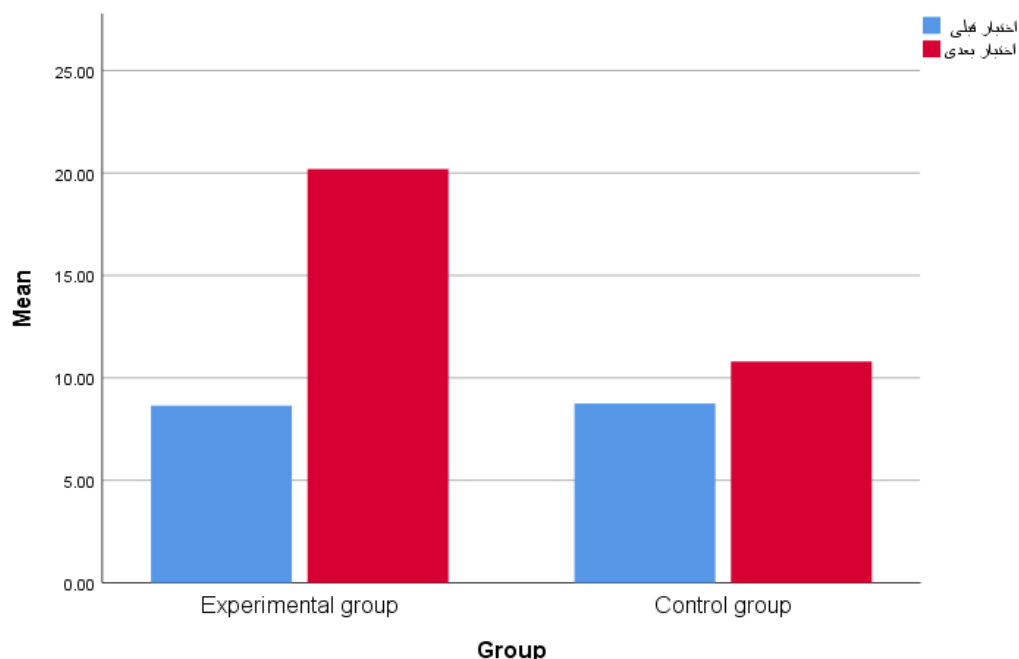
Figure 1. Performance of Both Groups in the Pre- and Post-Test

5.1. Discussion

The primary objective of this study was to examine the impact of integrating the Wordtune AI-powered writing tool into classroom instruction. Analysis of students' mean scores revealed improvement in writing skills across both groups by the study's conclusion. Crucially, results demonstrated a statistically significant difference between the experimental and control groups' post-test scores, with the experimental group outperforming the control group.

Notable improvements were observed in specific areas—vocabulary, grammar, organization, and punctuation—following the intervention, (see Appendix E) an example of the student's writing in the pre-and post-tests. These findings support the integration of AI-powered writing tools like Wordtune, which assist students by providing immediate grammatical feedback, offering multiple paraphrasing options for sentences, and suggesting contextual synonyms. These results align with Etaat's (2024) related study, which reported improvements in spelling, grammar, punctuation, and vocabulary. Unlike the current study, which focused solely on Wordtune, Etaat (2024) investigated both Wordtune and InstaText.

Researchers' observations during their scoring of the tests further indicated that students constructed longer and more complete sentences in post-tests compared to pre-tests, which often contained short, fragmented sentences. Students also produced syntactically more complex sentences, demonstrating writing improvement attributable to Wordtune use. These outcomes are comparable to Al Mahmud's (2023) findings on Wordtune's impact with Saudi high school students, which documented enhanced

lexical precision and syntactic complexity, including more precise vocabulary and complex sentence structures. While both studies examine Wordtune's effect on writing skills, the current research extends these findings to a university-level EFL context.

The pre-test and post-test instruments for this study were designed by the researchers based on academic writing course objectives and Wordtune's features. For instance, Questions 2 and 3 specifically assessed summarizing and paraphrasing skills. Results indicated significant enhancement in these skills: whereas many students left these questions unanswered in the pre-test, post-test responses were completer and more focused (see Appendix E). This demonstrates Wordtune's strong positive impact on student performance. These results closely align with Fitria (2024), who asserts that Wordtune aids in developing paraphrasing and summarizing skills, enabling students to convey messages diversely. Fitria (2024) emphasizes that while Wordtune is a useful tool for assisting students, it cannot replace teachers' roles in fostering creative and critical thinking.

The existing investigation supports the findings of Fadli et al.'s (2024), who concluded that Wordtune positively impacts students' writing improvement and motivates instructors to incorporate this tool. Fadli et al. (2024) further stress the importance of instructors guiding students on the tool's appropriate use. Similarly, the current study encourages the university instructors to integrate AI- tools, specifically Wordtune into classroom instruction as it is significantly contributed in improving the students' writing performance.

6. Conclusion

English majors must continuously improve their writing skills to enhance their competence and professionalism. The present study examined the impact of Wordtune on English majors academic writing performance. The findings showed that Wordtune assisted students in improving several aspects of academic writing, particularly grammar, vocabulary, sentence rephrasing and rewriting, and the overall clarity and quality of written text. Moreover, the quantitative analysis of the post-test scores revealed statistically significant improvement in the experimental group compared to the control group.

It is important to note that this study addresses a significant gap, as it represents the first investigation of Wordtune within the Libyan context and only the second study conducted among Arab countries.

The study recommends Wordtune as a beneficial tool for developing students' writing skills and accelerating their writing process. These recommendations emphasize that Wordtune should be integrated to assist instructors rather than replace human instruction.

The primary limitation of this study is its duration, having been conducted over a single semester. Furthermore, it focused exclusively on students enrolled in their fourth semester. Future research could

examine Wordtune's effectiveness in different university settings or cities. Additionally, studies could compare the effectiveness of Wordtune with other writing assistance tools.

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Appendix A

ESL COMPOSITION PROFILE

STUDENT   DATE   TOPIC

	SCORE LEVEL	CRITERIA	COMMENTS
CONTENT	30-27	**EXCELLENT TO VERY GOOD:** knowledgeable • substantive • thorough development of thesis • relevant to assigned topic	
	26-22	**GOOD TO AVERAGE:** some knowledge of subject • adequate range • limited development of thesis • mostly relevant to topic, but lacks detail	
	21-17	**FAIR TO POOR:** limited knowledge of subject • little substance • inadequate development of topic	
	16-13	**VERY POOR:** does not show knowledge of subject • non-substantive • not pertinent • OR not enough to evaluate	
ORGANIZATION	20-18	**EXCELLENT TO VERY GOOD:** fluent expression • ideas clearly stated/supported • succinct • well-organized • logical sequencing • cohesive	
	17-14	**GOOD TO AVERAGE:** somewhat choppy • loosely organized but main ideas stand out • limited support • logical but incomplete sequencing	
	13-10	**FAIR TO POOR:** non-fluent • ideas confused or disconnected • lacks logical sequencing and development	
	9-7	**VERY POOR:** does not communicate • no organization • OR not enough to evaluate	
VOCABULARY	20-18	**EXCELLENT TO VERY GOOD:** sophisticated range • effective word/idiom choice and usage • word form mastery • appropriate register	
	17-14	**GOOD TO AVERAGE:** adequate range • occasional errors of word/idiom form, choice, usage *but meaning not obscured*	
	13-10	**FAIR TO POOR:** limited range • frequent errors of word/idiom form, choice, usage • *meaning confused or obscured*	
	9-7	**VERY POOR:** essentially translation • little knowledge of English vocabulary, idioms, word form • OR not enough to evaluate	
LANGUAGE USE	25-22	**EXCELLENT TO VERY GOOD:** effective complex constructions • few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions	
	21-18	**GOOD TO AVERAGE:** effective but simple constructions • minor problems in complex constructions • several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions *but meaning seldom obscured*	
	17-11	**FAIR TO POOR:** major problems in simple/complex constructions • frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions • *meaning confused or obscured*	
	10-5	**VERY POOR:** virtually no mastery of sentence construction rules • dominated by errors • does not communicate • OR not enough to evaluate	
MECHANICS	5	**EXCELLENT TO VERY GOOD:** demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing	
	4	**GOOD TO AVERAGE:** occasional errors of spelling, punctuation, capitalization, paragraphing *but meaning not obscured*	
	3	**FAIR TO POOR:** frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting • *meaning confused or obscured*	
	2	**VERY POOR:** no mastery of conventions • dominated by errors of spelling, punctuation, capitalization, paragraphing • handwriting illegible • OR not enough to evaluate	

TOTAL SCORE   READER   COMMENTS

Appendix B

Text for paraphrasing:

" Effective teaching strategies are essential for fostering student engagement and learning. Techniques such as differentiated instruction, active learning, and formative assessment allow educators to cater to diverse learning styles and needs. By implementing these strategies, teachers can create a more inclusive and dynamic classroom environment that promotes academic success".

good teaching needs using different ways to help students learn better, for example, teachers can change how they teach to fit each student, let students take part in class and check their progress often. These methods help students stay interested and understand more.

It is important to use different methods to help students learn more. For example, teachers can modify their teaching style to meet the needs of each student. They should also let students take part in class and check on their progress often. This helps students stay interested and learn more.

Appendix C

Text for summarizing:

" Language acquisition is a complex process that involves several stages, from initial exposure to eventual fluency. Research indicates that learners go through a silent period where they absorb the language before beginning to speak. Consistent practice and exposure to the language in various contexts are crucial for progressing through these stages".

Language acquisition is a difficult process varous stages. from starting exposure to fingly fluency. the learners go through a silent period before starting to speak. practiceing and showing the language is very important to be better in these stages.

Summary with wordtune.

Learning a Language is a difficult process with various stages, from exposure to fluency. Before speaking, learners go through a silent phase. practicing and showing the language is essential.
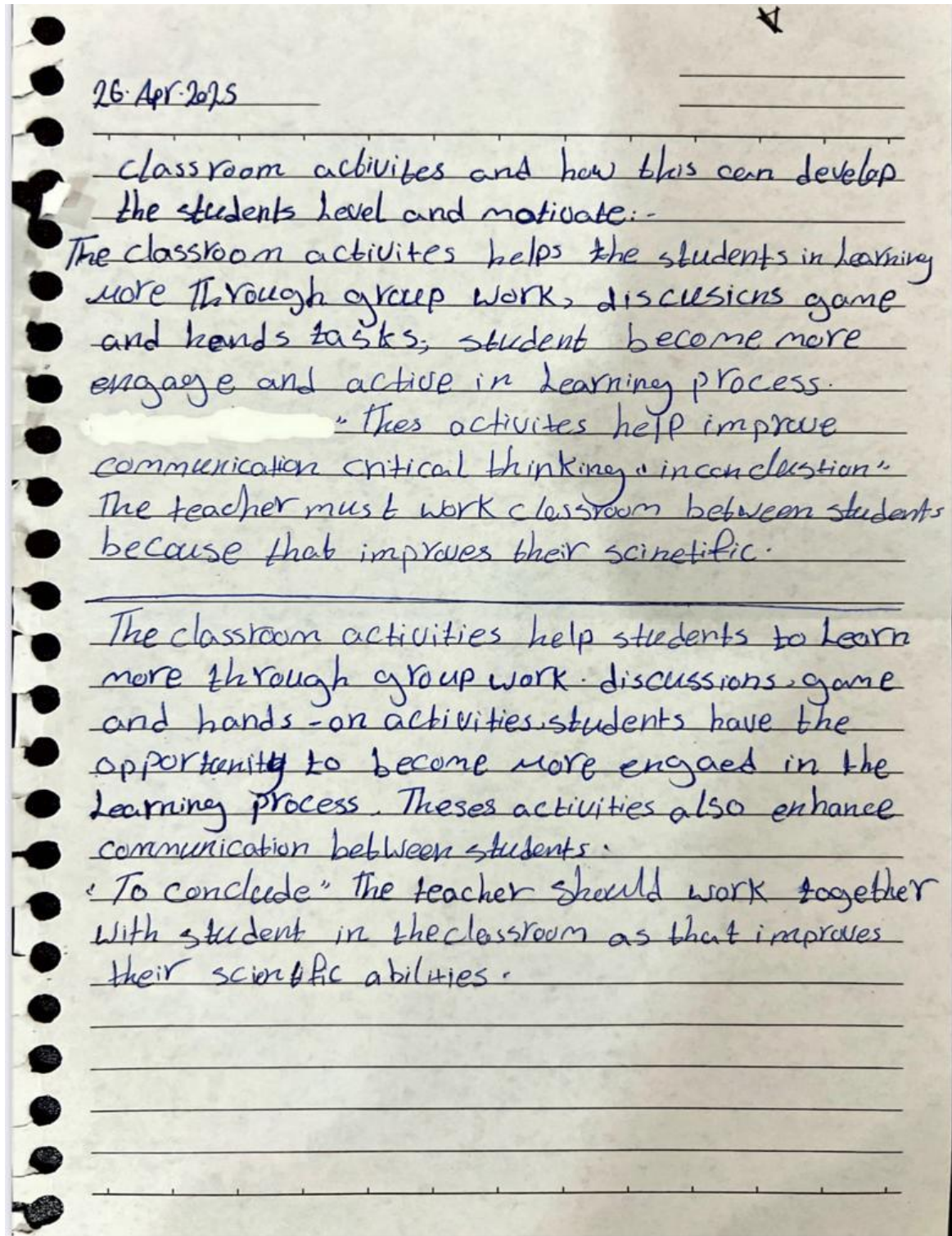
Summary :

language acquisition is a difficult process. Practicing and exposing Oneself to the languag are crucial for development through language acquisition
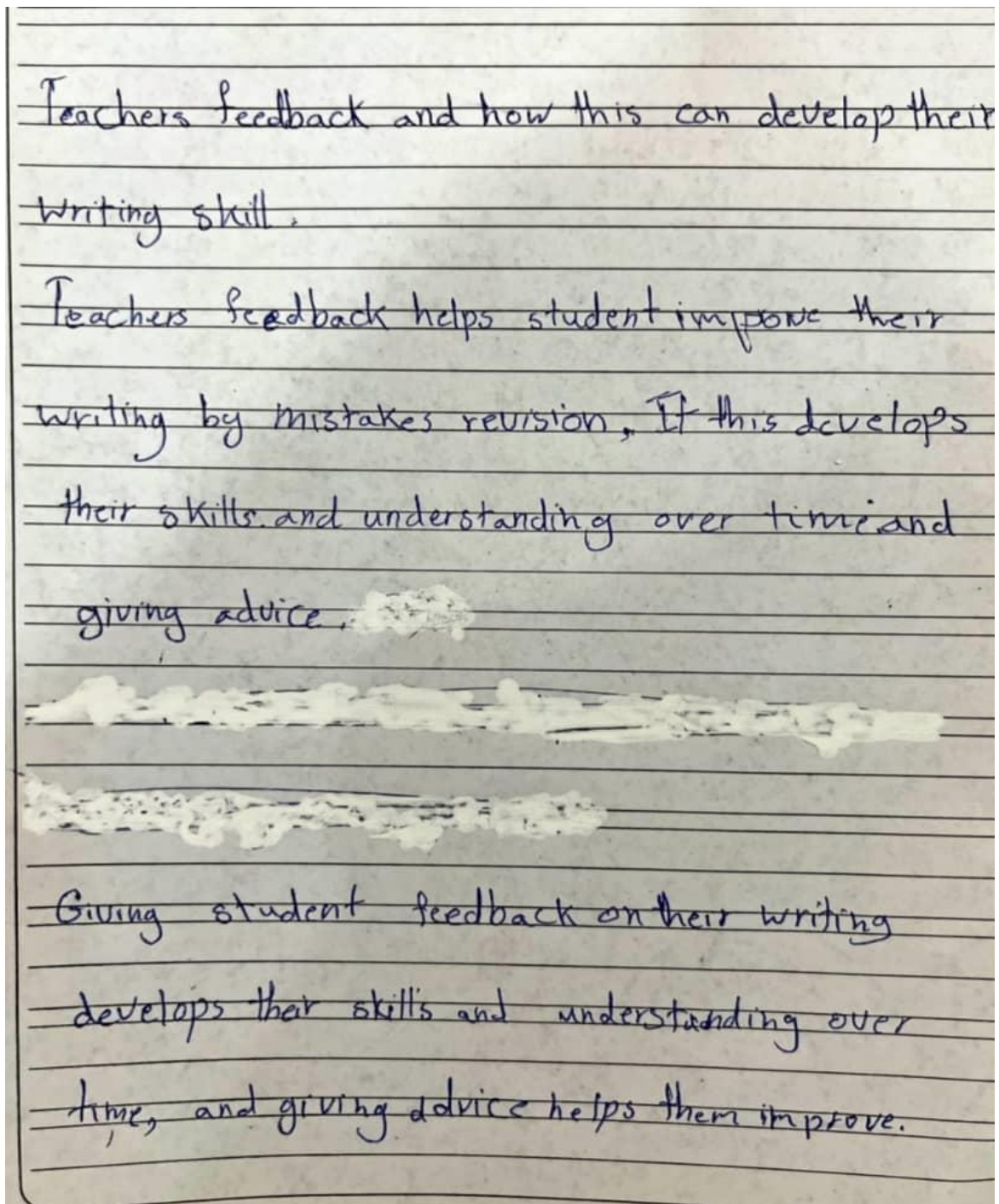
Wordtune summary :

In order to aquire a language, one must practice and expose themselves to the language.

Appendix D

Writing a short paragraph about classroom activities and their role in motivating students

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classroom activites and how this can develop the students level and motivate:-
The classroom activites helps the students in learning more Through group work, discussions game and hands tasks, student become more engage and active in Learning process.
" Thes activites help improve communication critical thinking. in conclustion" The teacher must work classroom between students because that improves their scinetific.

The classroom activities help students to Learn more through group work. discussions. game and hands -on activities. students have the opportunity to become more engaed in the Learning process. Theses activities also enhance communication between students.
"To conclude" The teacher should work together with student in the classroom as that improves their scintific abilities.

Writing a short paragraph about teachers' feedback and its role in developing writing skills.

Teachers feedback and how this can develop their writing skill.

Teachers feedback helps student improve their writing by mistakes revision. It this develops their skills and understanding over time and giving advice.

Giving student feedback on their writing develops their skills and understanding over time, and giving advice helps them improve.

Writing a short paragraph about the importance of vocabulary in improving students' academic performance.

Subject:......................   / /

Learning vocabulary is important for learners because help them to how speak, write and understand anyone speak English or any language. Every day we know new vocabulary. vocabulary is part of language, without vocabulary can't acquisition any language. learning vocabulary gives you a higher level then your first level.

For learners, vocabulary is essential since it helps them speak, write, and understand anyone who speaks English or any other language. We learn new vocabulary every day. Without vocabulary, you can't acquire any language. By learning vocabulary you will be at a higher level than when you first started.

Appendix E

Q1- Write a short paragraph about the common challenges that EFL students encounter when writing essays in English?

the challenges that comes with the EFL students happened because many reason and differences from one to another, one of reason:

① the student did not practice at home

② the ~~student~~ student did not speak english in adialy life also write what he speak in apeper, it's makes it more easy for him to writ essays very well in english

③ students are not got at grammatical stucture

Q1- How can AI-writing assistant tools aid EFL students in improving their academic writing?

Write a short paragraph regarding this topic.

AI writing ~~too~~ assistant tools help EFL student improve their writing by correcting grammar and spelling mistakes. They suggest better vocabulary and help student write clearer sentences. These tools give quick feedback allowing learners to improve their writing instantly. They ~~can~~ also guide student in using a formal acadmic style.