



The Effect of Chatgpt on Vocational Students' Writing and Plagiarism Awareness

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ABSTRACT

Generative artificial intelligence (AI) such as ChatGPT is increasingly integrated into English as a Foreign Language (EFL) writing instruction. However, empirical evidence in vocational high school contexts remains limited, particularly concerning its impact on academic integrity. This quasi-experimental study examined the effects of ChatGPT-assisted writing instruction on students' writing performance and plagiarism awareness. Sixty-eight tenth-grade students from a vocational high school in Bali were assigned to an experimental group (ChatGPT-assisted process writing with academic integrity guidance) and a control group (conventional instruction). Students completed a descriptive writing test and a plagiarism-awareness questionnaire. Data were analyzed using one-way MANOVA. The results revealed a significant multivariate effect, with the experimental group outperforming the control group in writing ($M=73.76$ vs 62.76) and plagiarism awareness ($M=134.00$ vs 88.85). These findings highlight ChatGPT's potential to enhance both writing proficiency and academic integrity when integrated with explicit instruction on paraphrasing, citation, and ethical AI use.

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INTRODUCTION

Writing is a productive skill that requires the simultaneous management of ideas, language, and revision. Cognitive process theories of writing emphasize that writers continually engage in planning, text generation, and revising in order to produce coherent and meaningful texts (Flower & Hayes, 1981). In the EFL context, writing is often regarded as the most challenging skill because it demands linguistic competence as well as the ability to organize ideas and follow genre conventions (Harmer, 2007; Hyland, 2003; Richards & Renandya, 2002). In vocational education settings, where communicative competence is essential for workplace readiness, writing instruction hold significant relevance.

The development of generative artificial intelligence (AI) has created new opportunities for writing instruction (Kusuma, 2020; Santosa, 2022). ChatGPT can generate text, provide rapid feedback on grammar and vocabulary, and support planning and revision (Kohnke et al., 2023; Li, 2024). Systematic reviews indicate that implementing ChatGPT in education tends to enhance learning support and personalization; however, its effectiveness depends on pedagogical design and teacher guidance (Kusuma et al., 2025; Montenegro-Rueda et al., 2023; Teng, 2024). Several intervention studies have also reported improvements in writing quality when ChatGPT is used as an assistant for feedback and revision (Mahapatra, 2024; Polakova & Ivenz, 2024; Song & Song, 2023).

In Indonesia, the use of ChatGPT has begun to be examined in writing instruction and has shown positive effects on text quality and learners' confidence, including in EFL (Pratama & Hastuti, 2024; Wahyudin & Andini, 2023). Despite the enthusiasm surrounding AI integration, concerns persist regarding its impact on academic integrity. The ease of generating fluent text may tempt students to bypass essential writing processes, fostering dependency and increasing the risk of plagiarism (Alberth, 2023; Barrot, 2023; Man et al., 2023). Therefore, ChatGPT should be positioned as a tool that strengthens the writing process rather than a substitute for the writer.

Another emerging issue concerns academic integrity. The availability of instant AI-generated text may facilitate plagiarism, particularly when students do not yet understand the boundaries of idea ownership, citation, and paraphrasing (Cotton et al., 2024; Ogugua et al., 2023). The core values of academic integrity such as honesty, trust, fairness, respect, responsibility, and courage that need to be internalized within writing activities (ICAI, 2021). Plagiarism awareness is particularly important in vocational high schools, where students may lack exposure to proper citation practices or misunderstand ownership of ideas. Research suggests that structured training can improve awareness of and attitudes toward plagiarism (Curtis et al., 2013; Prashar et al., 2024), whereas situational factors and misconceptions are often cited as reasons for plagiarism (Devlin & Gray, 2007; Erguvan, 2022; Harrad et al., 2024). The literature also continues to debate whether the use of ChatGPT is inherently equivalent to plagiarism, underscoring the importance of attribution and critical evaluation of AI outputs (Jarrah et al., 2023).

Although research on ChatGPT is developing rapidly, much of it still consists of surveys or literature reviews, and classroom-based quantitative evidence especially in vocational high school contexts that remains limited (Barrot, 2023; Kostka & Toncelli, 2023). This study addresses research question about whether ChatGPT-assisted writing instruction affects vocational high school students' writing skills and plagiarism awareness. To test the simultaneous effects on both dependent variables, the study employed a one-way MANOVA using post-test data.

Writing is commonly conceptualized as a recursive cognitive activity rather than a one-step product. In the cognitive-process model, writers move back and forth among planning, translating ideas into text, and reviewing/revising what has been written (Flower & Hayes, 1981). In EFL classrooms, this recursive nature is often supported through process-writing pedagogy that emphasizes drafting, feedback, and revision to improve meaning and accuracy over time (Harmer, 2007; Hyland, 2003; Weigle, 2002).

From a practical assessment perspective, analytic scoring that considers content, organization, vocabulary, language use, and mechanics can align with process writing because it makes quality criteria visible and provides targets for revision (Weigle, 2002). Therefore, any technology integrated into writing instruction should ideally strengthen students' engagement in planning, revising, and editing rather than bypass these stages (Richards & Renandya, 2002).

Recent work positions ChatGPT as a generative-AI tool that can function as a conversational writing assistant in language learning (Kusuma et al., 2024; Santosa et al., 2024). Across reviews, ChatGPT is frequently described as offering immediate linguistic support (e.g., vocabulary options, grammar feedback) and facilitating individualized assistance; however, the quality of learning outcomes depends heavily on pedagogical design and teacher mediation (Kohnke et al., 2023; Kusuma, 2021; Montenegro-Rueda et al., 2023; Santosa et al., 2026; Teng, 2024).

Intervention studies in second-language writing increasingly report improvements in students' writing quality when ChatGPT is used for feedback and revision, including gains in coherence, accuracy, and the ability to refine drafts ((Li, 2024; Mahapatra, 2024; Polakova & Ivenz, 2024; Song & Song, 2023). These findings suggest that ChatGPT may be most beneficial when framed as a scaffold that supports learners' decision-making along with asking the tool to explain problems, offer alternatives, or justify revisions rather than as a generator of complete assignments.

At the same time, the literature emphasizes risks such as overreliance, reduced independent drafting, and the possibility of inaccurate or fabricated information in AI outputs (Kartini et al., 2025). Concerns about linguistic injustice, authorship, and ethical boundaries in AI-assisted writing further highlight the need for explicit guidance and critical evaluation strategies (Barrot, 2023; Man et al., 2023; Teng, 2024). Student experience studies similarly indicate that learners may enjoy and benefit from ChatGPT, but still require clear rules and monitoring to keep the writing process meaningful (Kayalı et al., 2023).

Academic integrity is commonly framed through values such as honesty, trust, fairness, respect, responsibility, and courage (ICAI, 2021). Generative AI complicates integrity practices because students can produce fluent text quickly, which may blur boundaries between legitimate support and inappropriate substitution. As a result, current debates focus on transparency of tool use, attribution, and what counts as plagiarism when AI contributes to the writing process (Jarrah et al., 2023).

Empirical studies on plagiarism education indicate that prevention is more effective when it prioritizes conceptual understanding, writing-skill development, and sustained guidance rather than relying only on punishment or surveillance (Curtis et al., 2013; Devlin & Gray, 2007; Prashar et al., 2024). In addition, misconceptions about citation and internet-based copying remain common, suggesting a continued need for explicit instruction and an ethical culture in classrooms (Erguvan, 2022; Harrad et al., 2024).

In the context of AI tools, scholars argue that integrity instruction should include practical literacy tells how to paraphrase, cite sources, and verify information as well as norms for disclosing AI assistance (Cotton et al., 2024; Ogugua et al., 2023). This aligns with the view

that responsible AI use is not only a technical issue, but also a matter of fostering students' ethical judgment and accountability as writers.

The Plagiarism Awareness Model (PAM) conceptualizes plagiarism awareness as multidimensional, including authenticating, citing, understanding, insight, paraphrasing, and attitude (Sabaghinejad et al., 2024). Beyond measurement, PAM can help teachers translate integrity into teachable components. For example, linking paraphrasing practice with citation accuracy and reflection on why attribution matters. Because plagiarism risk often decreases when students have stronger academic writing skills and clearer criteria for originality, integrity instruction can be integrated with process writing and revision work (Razi, 2015).

Although research on ChatGPT in language education is expanding, classroom-based quantitative evidence remains relatively limited in vocational high school contexts, and studies often examine outcomes in isolation rather than considering writing development together with integrity literacy. This study therefore investigates whether ChatGPT - assisted writing instruction moreover combined with explicit academic-integrity guidance can simultaneously enhance vocational students' writing performance and plagiarism awareness.

METHODS

This study employed a quasi-experimental design with a pre-test and post-test for both the control and experimental groups (Creswell & Creswell, 2018). The experimental group received process-writing instruction assisted by ChatGPT, whereas the control group received conventional writing instruction. The writing test focused on the descriptive text genre.

The participants were 68 tenth-grade students from the Hotel Accommodation program at SMK Negeri 4 Denpasar, Bali. They were assigned to two intact classes (n = 34 each) serving as the control and experimental groups. The classes were selected using cluster random sampling based on the equivalence of initial scores.

Writing skill was measured using a writing test. Students' writing was assessed with an analytic rubric covering content, organization, vocabulary, language use (grammar), and mechanics, consistent with writing assessment principles emphasizing text quality and coherence (Harmer, 2007; Weigle, 2002).

Plagiarism awareness was measured using a questionnaire adapted from the Plagiarism Awareness Model (PAM), which comprises six dimensions: authenticating, citing, understanding, insight, paraphrasing, and attitude (Sabaghinejad et al., 2024). The instrument was validated through expert judgment using a content validity coefficient and was tested for reliability (Gregory, 2014). In addition to serving as a measurement tool, the PAM dimensions were relevant for designing instruction that emphasizes paraphrasing and citation as strategies to prevent plagiarism (Razi, 2015).

The research procedure consisted of a pre-test, six instructional sessions as the treatment, and a post-test. In the experimental group, ChatGPT was used at selected stages of the process-writing cycle (planning, drafting, revising, and editing) and was accompanied by ethical guidelines: AI outputs had to be understood, paraphrased, and attributed when used; students were prohibited from copying verbatim. This practice followed recommendations to integrate ChatGPT into the writing process while strengthening academic integrity literacy (Cotton et al., 2024; Teng, 2024). Data were analysed using a one-way MANOVA after

meeting the assumptions of normality, homogeneity of covariance matrices, and homogeneity of variances. Effect sizes were interpreted using partial eta squared (Cohen, 1988).

RESULTS AND DISCUSSION

Results

Baseline equivalence of the groups

An independent-samples t-test on the pre-test scores indicated no significant difference in initial ability between the experimental and control groups. For writing skill, the control group ($M = 48.71$, $SD = 6.15$) and the experimental group ($M = 46.94$, $SD = 5.93$) did not differ significantly, $t(66) = 1.204$, $p = .233$. For plagiarism awareness, the control group ($M = 50.74$, $SD = 10.85$) and the experimental group ($M = 48.24$, $SD = 11.02$) also did not differ significantly, $t(66) = 0.943$, $p = .349$. Therefore, the two groups can be considered equivalent prior to the treatment.

Table 1. Descriptive Statistics for Writing Scores (Y1) in the Pre-test and Post-test

Group	N	Pretest (M±SD)	Posttest (M±SD)	Gain
Control	34	48,71 ± 6,15	62,76 ± 10,64	14,05
Experimental	34	46,94 ± 5,93	73,76 ± 10,58	26,82

Note. Gain = post-test score – pre-test score.

Table 2. Descriptive Statistics for Plagiarism Awareness Scores (Y2) in the Pre-test and Post-test

Group	N	Pretest (M±SD)	Posttest (M±SD)	Gain
Control	34	50,74 ± 10,85	88,85 ± 6,40	38,11
Experimental	34	48,24 ± 11,02	134,00 ± 6,86	85,76

Note. Plagiarism awareness scores were obtained from the questionnaire; higher scores indicate better understanding/awareness.

To provide a richer description of the data, score ranges (minimum–maximum) and mean-based categories are presented in

Table 3, and the frequency distribution of post-test plagiarism awareness scores is presented in Table 4.

Table 3. Score Ranges (Min–Max) and Mean-Based Categories in the Pre-test and Post-test

Variable	Group	Pretest Min–Maks	Pretest Category	Posttest Min–Maks	Posttest Category
Writing (Y1)	Experimental (A1)	37–61	Poor	51–86	Good
Writing (Y1)	Control (A2)	39–62	Poor	47–87	Poor
Plagiarism (Y2)	Experimental (A1)	31–78	Poor	115–147	Good
Plagiarism (Y2)	Control (A2)	35–80	Poor	76–100	Fair

Note. Categories based on mean scores follow the criteria used in

the descriptive analysis section of the thesis.

Table 4. Frequency Distribution of Post-test Plagiarism Awareness Scores (Y2)

Class	Interval (Experimental)	f	Interval (Control)	f
1	115–121	1	76–80	5
2	122–128	7	81–85	3
3	129–135	1 2	86–90	1 1
4	136–142	6	91–95	1 0
5	143–149	8	96–100	5

Note. N for each group = 34.

Descriptively, both groups improved after instruction; however, the improvement in the experimental group was larger. In the post-test writing scores, the experimental group ($M = 73.76$, $SD = 10.58$) outperformed the control group ($M = 62.76$, $SD = 10.64$), and the difference was significant, $t(66) = -4.276$, $p < .001$, mean difference = 11.00. In the post-test plagiarism awareness scores, the experimental group ($M = 134.00$, $SD = 6.86$) scored substantially higher than the control group ($M = 88.85$, $SD = 6.40$), with a highly significant difference, $t(66) = -28.061$, $p < .001$, mean difference = 45.15. Figure 1 and Figure 2 summarize the pre-test to post-test improvement patterns for both variables.

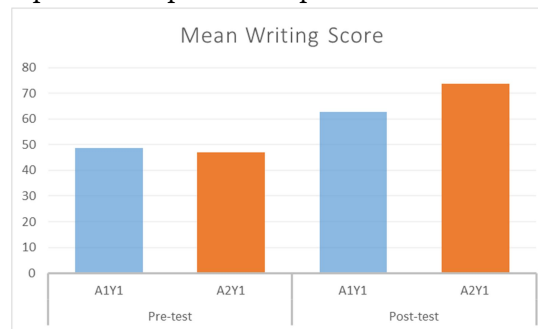


Figure 1. Mean writing scores in the pre-test and post-test for the control and experimental groups.

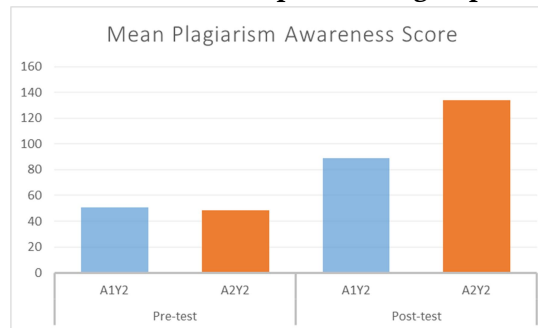


Figure 2. Mean plagiarism awareness scores in the pre-test and post-test for the control and experimental groups.

MANOVA Assumption Testing

Before conducting MANOVA, several key assumptions were examined. The results indicated that the data met the assumptions of multivariate normality, homogeneity of covariance matrices, homogeneity of variances, linearity between the dependent variables, and absence of multicollinearity. A summary of the assumption-testing statistics is presented in Table 5

Table 5. Summary of MANOVA Assumption Tests

Assumption	Indicator	Statistics	Decision
Multivariate normality	Mahalanobis–Chi-square correlation	$r = 0.979, p < .001$	Met
Homogeneity of covariance matrices	Box's M	$M = 0.030, p = .999$	Met
Homogeneity of variances	Levene's test (Writing; Plagiarism)	$p = .704; p = .840$	Met
Linearity	Correlation between Y1–Y2 (post-test)	$r = 0.447, p < .001$ ($R^2 = 0.20$)	Met
Multicollinearity	Tolerance; VIF	0.800; 1.249	Not present

Note. The assumption tests refer to the calculations reported in the thesis (e.g., Box's M, Levene's tests, correlation, and VIF).

Simultaneous Hypothesis Test (One-Way MANOVA)

A one-way MANOVA revealed a significant simultaneous effect of ChatGPT use on the combined dependent variables (writing skill and plagiarism awareness). Based on Wilks' Lambda, there was a strong multivariate difference between the experimental and control groups (Wilks' $\Lambda = 0.076, F(2, 65) = 397.070, p < .001$), with a very large effect size (partial $\eta^2 = 0.924$). The complete multivariate test results are presented in Table 6

Table 6. Multivariate MANOVA Results for the Group Variable

Test	Value	F	df (H)	df (E)	p
Pillai's Trace	0,924	397,070	2	65	<0,001
Wilks' Lambda	0,076	397,070	2	65	<0,001
Hotelling's Trace	12,218	397,070	2	65	<0,001
Roy's Largest Root	12,218	397,070	2	65	<0,001

Note. The multivariate partial η^2 for the group effect = 0.924.

Follow-up Univariate Tests (Between-Subjects Effects)

As follow-up analyses, univariate tests (Tests of Between-Subjects Effects) indicated that the treatment had a significant effect on each dependent variable. For post-test writing, the group effect was significant ($F = 18.286, p < .001$, partial $\eta^2 = 0.217$). For post-test plagiarism

awareness, the group effect was extremely strong ($F = 787.437$, $p < .001$, partial $\eta^2 = 0.923$). A summary of the univariate results is provided in Table 7.

Table 7. Summary of Univariate Group Effects for Each Dependent Variable

Dependent variable	F	df	p	Partial η^2
Writing (post-test)	18,286	1,66	<0,001	0,217
Plagiarism awareness (post-test)	787,437	1,66	<0,001	0,923

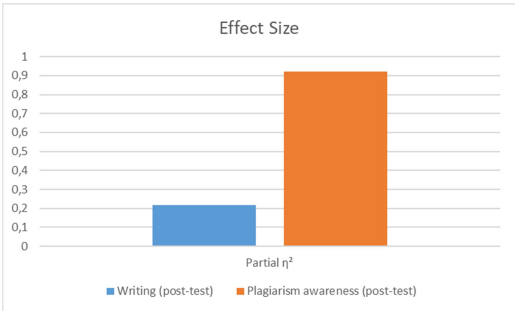


Figure 3. Effect sizes (partial η^2) of the treatment for the multivariate outcome and each dependent variable.

Discussion

The main findings of this study address Research Question 1 by showing a significant simultaneous effect of ChatGPT use on writing skill and plagiarism awareness. The very large multivariate effect size indicates that instruction integrating ChatGPT not only improves writing performance but also strengthens academic integrity dimensions at the same time. This result aligns with the literature highlighting ChatGPT’s potential as a supportive tool for writing processes and language learning, provided that its use is guided through task design, teacher scaffolding, and clear ethical rules (Barrot, 2023; Kohnke et al., 2023; Teng, 2024).

Regarding writing skill, the improvement in the experimental group can be interpreted through ChatGPT’s role as cognitive and linguistic scaffolding during planning, idea development, and revision. Such support is consistent with process-writing perspectives that conceptualize writing as an iterative activity (planning–translating–reviewing) (Flower & Hayes, 1981) and with writing pedagogy emphasizing practice, feedback, and revision (Harmer, 2007; Hyland, 2003; Weigle, 2002). Recent studies also report that ChatGPT can assist second-language writers in improving coherence, grammatical accuracy, and revision quality when accompanied by appropriate instruction (Li, 2024; Polakova & Ivenz, 2024; Song & Song, 2023).

With respect to plagiarism awareness, the very large gain in the experimental group suggests that ChatGPT can serve as an effective medium for discussing paraphrasing, citation, and ethical writing practices especially when combined with explicit instruction on academic integrity values (ICAI, 2021) and habituation of source evaluation. This finding is consistent

with research arguing that plagiarism prevention is more effective when it focuses on conceptual understanding, the development of academic writing skills, and sustained guidance rather than punishment alone (Devlin & Gray, 2007; Erguvan, 2022; Prashar et al., 2024). At the same time, the emergence of generative AI introduces new challenges related to attribution, transparency of tool use, and definitions of authorship and originality; therefore, educational institutions need to clarify guidelines for AI use in writing tasks (Cotton et al., 2024; Harrad et al., 2024; Ogugua et al., 2023).

The moderate positive correlation between post-test writing scores and plagiarism awareness indicates that these competencies may develop in tandem: understanding correct paraphrasing and citation may encourage students to write more structured and accurate texts, while stronger writing ability may enable students to apply academic integrity strategies more consistently (ICAI, 2021; Razi, 2015). In other words, interventions that link text-quality improvement with academic integrity literacy have the potential to generate mutually reinforcing gains.

Table 8. Examples of ChatGPT Integration Supporting Writing and Academic Integrity

Stage/Activity	Example of ChatGPT Use	Integrity Emphasis
Pre-writing (brainstorming /outline)	Generating ideas, developing an outline, and determining focus/topic.	Students must select ideas independently and rewrite them in their own voice; references must come from valid sources.
Drafting	Requesting feedback on paragraph structure, coherence, or vocabulary choice.	Avoid asking ChatGPT to write the entire assignment; use it for feedback rather than as a substitute for the writer.
Revision	Asking for suggestions to improve sentences and the rationale for revisions (e.g., coherence/accuracy).	Track revisions (revision log) and report AI contributions if required by school/institutional policy.
Paraphrasing & citation	Practicing paraphrasing from one's own notes and then comparing with the source text.	Paraphrases must include citations; verify every reference and formatting (e.g., APA) manually.
Final reflection	Using a checklist: argument clarity, citation consistency, and plagiarism risk.	Use similarity checking as reflection; focus on improving originality rather than "gaming" the system.

Note. The examples above are illustrative; implementation should be adapted to institutional policies on AI use and assessment.

Nevertheless, implementing ChatGPT in writing instruction still requires supervision because it may lead to dependency, misinformation (hallucinations), or confusion about permissible levels of assistance. Therefore, recommended best practices include combining responsible prompt training, an emphasis on process (not merely product), and assessment that requires process evidence (drafts, source notes, and reflections) (Cotton et al., 2024; Kayalı et al., 2023; Teng, 2024).

Table 9. Group Statistics for Post-test Writing Scores (Y1)

Group	N	Mean	SD
Control	34	62.76	10.635
Experiment	34	73.76	10.577

Table 10. Group Statistics for Post-test Plagiarism Awareness Scores (Y2)

Group	N	Mean	SD
Control	34	88.85	6.401
Experiment	34	134.00	6.858

Building on the evidence that ChatGPT-assisted process writing can improve both writing outcomes and plagiarism awareness, several implications emerge for classroom instruction, assessment practices, and school-level policy in vocational EFL settings. These implications emphasize positioning AI as a learning scaffold rather than a shortcut, while ensuring that integrity and accountability remain central to writing development.

Implications for EFL writing pedagogy

ChatGPT should be used primarily to support key stages of the writing process such as generating ideas, organizing outlines, and revising drafts rather than producing complete drafts for students. This approach keeps learners as the primary authors and aligns AI integration with process-writing principles that highlight planning, drafting, and revising as core components of writing development (Flower & Hayes, 1981; Harmer, 2007).

To maximize learning value, teachers can explicitly teach students how to design prompts that request explanations, alternatives, and reasons (e.g., asking for multiple coherence-improvement options with justification), so the interaction promotes understanding instead of mere task completion (Li, 2024; Teng, 2024).

In addition, incorporating structured revision routines such as maintaining outlines, submitting multiple drafts, engaging in peer/teacher feedback cycles, and completing revision logs also can make improvement visible and encourage reflective learning. AI assistance becomes part of metacognitive growth rather than a pathway to bypass effort when students document what changed and why (Weigle, 2002)).

Implications for academic integrity and AI literacy.

Academic integrity should be embedded explicitly in writing instruction by linking core values such as honesty, trust, fairness, respect, responsibility, and courage to concrete writing behaviors. This use to transparent source use, accurate citation, and responsible decision-making during drafting and revision (ICAI, 2021).

Plagiarism awareness is more effective when treated as a teachable skill set rather than only a set of prohibitions. Teachers can translate plagiarism-awareness dimensions (e.g., citing, paraphrasing, and authenticating sources) into focused mini-lessons and guided practice tasks that build students' competence and confidence over time (Sabaghinejad et al., 2024).

Clear classroom norms are also essential for responsible AI use, including prohibiting direct copying of raw AI output, requiring rewriting and personalization, encouraging fact-checking and verification of claims, and ensuring proper citation of external sources. Where required by institutional rules, students should also be guided to disclose AI assistance transparently and consistently (Cotton et al., 2024; Jarrah et al., 2023).

Implications for assessment design

To reduce incentives for “instant” AI-generated submissions and to evaluate learning more fairly, assessment should allocate meaningful weight to process evidence such as outlines, draft progression, revision logs, and short reflections explaining revision decisions. This design signals that writing is valued as a developmental process not only as a final product. Product assessment can also be strengthened through brief authenticity checks conducted in class such as short closed-device writing tasks, oral explanations of revision choices or source-tracing activities therefore students remain accountable for the ideas, language, and evidence they submit.

Implications for school policy and teacher development

At the school level, consistent guidelines are needed to clarify what forms of AI support are acceptable, when disclosure is expected, and what consequences apply to misuse, while still encouraging learning-oriented uses of generative AI (Ogugua et al., 2023). Classroom practices can become inconsistent and students may receive mixed messages about what counts as ethical use without shared expectations. To implement these guidelines effectively the teacher development should focus on practical competencies including prompt design for learning, strategies for evaluating AI-generated feedback and content also feedback approaches that strengthen student independence rather than replacing instruction (Kohnke et al., 2023; Teng, 2024).

Implications for future research

Future studies could extend this line of inquiry by testing integrity-oriented, ChatGPT-assisted process writing across additional genres (e.g., argumentative writing, report writing, and ESP tasks), and by examining whether gains in writing ability and integrity awareness are retained over longer periods. Research would also benefit from richer qualitative evidence such as revision logs, interviews, and classroom observations to clarify how students interpret AI support, negotiate authorship, and make decisions about paraphrasing, citation, and disclosure during the writing process.

CONCLUSION

This study demonstrates that ChatGPT-assisted writing instruction has a significant effect on vocational high school students’ writing skill and plagiarism awareness. The experimental group achieved higher post-test scores than the control group on both variables. Practically, ChatGPT can be integrated as a supportive tool in the planning and revision stages; however, it should be accompanied by ethical guidance (paraphrasing, citation, and transparency of AI use) and teacher monitoring to ensure that students remain critical and independent thinkers. Future research may expand to different school contexts and text genres and incorporate qualitative data to better understand the mechanisms underlying the observed changes.

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