

Students' Perceptions of Artificial Intelligence Use in English Writing: Evidence from Vocational High School Students

 <https://doi.org/10.31004/jele.v11i5.3338>

*Rahayu, Ira Maysarah, Iis Sujarwati^{abc}

¹²³Universitas Bengkulu, Indonesia

Corresponding Author: rahayuwidodo879@gmail.com

ABSTRACT

Artificial Intelligence (AI) is increasingly used in English writing instruction to support idea generation, drafting, revision, and editing. However, research on vocational high school students' perceptions of AI-supported English writing in Indonesia remains limited. This study examined students' perceptions of AI applications in English writing at SMK Negeri 2 Bengkulu City. A descriptive quantitative survey involved 70 tenth-grade students selected purposively based on their prior experience using AI applications. Data were collected using an adapted 20-item questionnaire covering motivation, learning quality, AI value, cognitive learning, affective learning, and course quality. Descriptive analysis examined mean scores and percentages to determine students' perceptions across the six dimensions. The findings revealed a very high overall perception of AI-supported English writing learning ($M = 4.22$; 84.4%). Course quality received the highest rating ($M = 4.26$; 85.2%), whereas cognitive learning recorded the lowest ($M = 4.16$; 83.2%). These findings indicate that students generally perceived AI positively as a supportive tool for English writing instruction. The results highlight the perceived educational value of AI while underscoring the need to strengthen its contribution to students' cognitive engagement and independent writing development.

Keywords: *Artificial Intelligence, Students' Perceptions, English Writing, Vocational High School.*

Article History:

Received 30th August 2026

Accepted 28th September 2026

Published 19th October 2026



INTRODUCTION

Writing is a fundamental skill in English language learning because it requires learners to coordinate linguistic, cognitive, and organizational abilities to communicate ideas effectively. Unlike speaking, writing requires learners to plan, develop, organize, and revise their ideas before producing a final text. Effective writing involves appropriate vocabulary, grammatical accuracy, logical organization, coherence, and cohesion. These competencies are essential in academic and professional communication, where written messages must convey information clearly and accurately (Abdeta et al., 2026; Nakrowi & Lumettu, 2025).

English writing is particularly relevant to vocational education because vocational high schools in Indonesia, known as Sekolah Menengah Kejuruan (SMK), prepare students for employment and further education through occupationally oriented learning. Depending on their specialization, students may need to write emails, application letters, reports, business correspondence, or other workplace-related documents. English writing instruction can therefore help vocational students develop communication skills relevant to their future professional environments. Unlike students in general senior high schools, vocational students engage with learning activities that emphasize the application of knowledge to specific occupational contexts. These characteristics make practical, accessible, and relevant writing support particularly important (Bespalyy & Bespalaya, 2025; Harmer, 2006).

Despite its practical importance, English writing remains challenging for many learners of English as a Foreign Language (EFL). Students may struggle to generate ideas, select appropriate vocabulary, apply grammatical structures, organize paragraphs, and maintain coherence. These difficulties arise partly because writing requires learners to manage several

processes simultaneously, including planning, drafting, revising, and editing. Previous studies have documented problems involving vocabulary, grammar, idea development, coherence, and confidence in expressing ideas in English (Nandha & Widiastuty, 2024; Zulfa et al., 2023). Such challenges may be particularly demanding for vocational students who must develop English competencies alongside the technical knowledge required by their respective fields. Effective writing instruction consequently requires appropriate guidance, constructive feedback, and opportunities for continuous revision (Graham & Perin, 2007).

Traditionally, teachers have supported writing development through direct instruction, individual feedback, peer review, classroom discussion, and self-assessment. These practices help students recognize weaknesses and improve their written work. However, teachers may face difficulties providing immediate, individualized feedback to every student, particularly when classroom time and instructional resources are limited (Hyland, 2019). Digital technologies offer additional opportunities to address these challenges by providing accessible learning support beyond classroom hours. In Indonesian vocational education, such support is relevant because students may need to practice English writing independently while connecting language learning with occupational tasks. Artificial Intelligence (AI) has emerged as one technological option for supporting these learning activities.

AI-powered applications such as ChatGPT, Grammarly, QuillBot, Trinko AI, Wordtune, Copilot, and Gemini provide different forms of writing assistance. Depending on their features, these applications can help students generate ideas, select vocabulary, correct grammatical errors, restructure sentences, paraphrase passages, and revise drafts. Some applications provide conversational explanations, whereas others focus primarily on grammar checking or text refinement. These functions may help vocational students address writing difficulties and obtain feedback during different stages of the writing process. Previous studies have reported the potential of AI-supported learning to improve writing quality, grammatical accuracy, motivation, vocabulary use, and learners' confidence (Aini & Basthomi, 2025; Nawir et al., 2025; Pratama & Hastuti, 2024; Veri & Fitria, 2024). Nevertheless, the educational value of these applications depends partly on how students use them and interpret the assistance they receive.

The relevance of AI-assisted writing in Indonesia also needs to be considered in relation to the national educational context. Digital technologies increasingly provide opportunities for students to access learning resources, practice independently, and receive feedback beyond conventional classroom instruction. For vocational students, AI applications may offer additional support when they encounter unfamiliar English expressions or need to prepare written materials related to their fields of study. However, access to technology, digital literacy, English proficiency, and teacher guidance may differ across students and schools. AI-generated suggestions may also contain inaccurate information or inappropriate language. Students therefore need to evaluate AI outputs critically rather than accept them without verification. Examining students' experiences can help educators understand how AI-supported writing is perceived within the practical learning environment of Indonesian vocational high schools.

Although research on AI in English language education has expanded, many studies have emphasized its effectiveness, writing performance outcomes, or implementation in technology-supported learning activities. Other investigations have examined AI applications for speaking, listening, pronunciation, vocabulary, and test preparation (Aini & Basthomi, 2025; Nawir et al., 2025; Pratama & Hastuti, 2024; Veri & Fitria, 2024). These studies contribute to understanding the potential applications of AI in language learning. However, evidence of improved performance alone cannot fully explain how learners experience AI, which aspects they consider valuable, or how they perceive its contribution to their learning. Students' perceptions deserve specific attention because their experiences may reveal benefits and limitations that performance measures alone cannot capture.

A further research gap concerns the characteristics of the learners and their educational setting. Previous investigations have frequently involved university students, while vocational high school students in Indonesia have received comparatively less attention.

Vocational students learn English within educational programs that prioritize occupational competencies and practical applications. Their perceptions of AI-assisted writing may consequently reflect concerns about completing writing assignments, understanding language conventions, developing independent writing skills, and preparing for professional communication. Their experiences may also differ according to their familiarity with AI applications, English proficiency, and opportunities to use digital learning resources. These differences should not be assumed in advance; rather, they provide a reason to investigate vocational students' perceptions within their own educational context. Empirical evidence from SMK Negeri 2 Bengkulu City can contribute to a more context-sensitive understanding of AI-assisted English writing in Indonesian vocational education.

The theoretical foundation of this study draws on perspectives concerning motivation, perceived learning quality, technology value, cognitive learning, affective learning, and instructional quality. The Technology Acceptance Model (TAM) proposed by Davis (1989) explains how perceived usefulness and perceived ease of use shape users' acceptance of technology. This perspective supports examining students' evaluations of AI's practical value and contribution to writing activities. Motivation theory also provides a basis for considering learners' willingness to participate in writing tasks and sustain their learning efforts. From a cognitive perspective, AI may support idea development, language processing, and revision, although its contribution to independent thinking depends on how students engage with its suggestions. Affective learning concerns students' confidence, comfort, and emotional responses during writing, while learning quality and course quality concern students' perceptions of the learning experience and the instructional environment. Together, these perspectives provide a conceptual basis for examining the six dimensions investigated in this study. They serve as complementary analytical perspectives rather than six constructs that can automatically be attributed to a single established theory.

Understanding these dimensions is important because positive perceptions of AI do not necessarily indicate that students have developed stronger independent writing abilities. Students may value immediate feedback and convenient access to writing assistance while still experiencing difficulties evaluating suggestions, identifying errors, or developing original ideas. AI-assisted writing also raises concerns about overdependence, plagiarism, academic integrity, and the accuracy of generated content. Investigating motivation, learning quality, AI value, cognitive learning, affective learning, and course quality can provide a broader description of how students evaluate AI-supported writing. Such evidence may help teachers identify the aspects of AI use that students appreciate and the areas that require further pedagogical guidance. The findings can also inform decisions about integrating AI into writing instruction without replacing students' own reasoning, drafting, and revision processes.

Responding to these research gaps, this study investigates vocational high school students' perceptions of using AI applications for English writing activities at SMK Negeri 2 Bengkulu City. It focuses on tenth-grade students who have prior experience using AI applications for English writing, including ChatGPT, Grammarly, and QuillBot. The study examines six dimensions: motivation, learning quality, AI value, cognitive learning, affective learning, and course quality. Using a descriptive quantitative survey, it aims to identify the overall pattern of students' perceptions and describe how these perceptions vary across the six dimensions. The study does not seek to establish the causal effect of AI on writing performance; instead, it provides empirical evidence of students' reported experiences and evaluations in a vocational educational context.

Accordingly, this study addresses the following research question: What are vocational high school students' perceptions of using Artificial Intelligence for English writing activities at SMK Negeri 2 Bengkulu City? The study contributes to research on AI-assisted English language learning by extending the discussion beyond university settings and effectiveness-focused investigations. Its contribution lies in describing students' perceptions across multiple learning dimensions within an Indonesian vocational high school. The findings may provide practical insights for English teachers and school administrators who seek to integrate AI into

writing instruction responsibly. In particular, the results may help educators identify perceived strengths of AI-supported learning while recognizing the importance of teacher guidance, critical evaluation, independent writing development, and academic integrity.

METHOD

Research Design

This study employed a **descriptive quantitative survey design** to investigate vocational high school students' perceptions of using Artificial Intelligence (AI) for English writing skills. A quantitative survey design was selected because the study aimed to obtain numerical information concerning students' perceptions and describe the general tendency of their responses. In survey research, standardized questionnaires enable researchers to collect data systematically from a group of respondents and subsequently analyze the data using statistical procedures (Creswell & Creswell, 2018). The descriptive orientation of the study was appropriate because the research did not aim to examine causal relationships or determine the effect of AI on students' writing performance. Instead, it focused on describing students' perceptions based on their previous experiences using AI applications for English writing activities.

The study was conducted at SMK Negeri 2 Bengkulu City, Bengkulu Province, Indonesia, during the second semester of the 2025/2026 academic year. The school was selected because digital technologies have been incorporated into English learning and a number of students were familiar with AI applications such as ChatGPT, Grammarly, and QuillBot for supporting English writing activities. The research therefore focused on students who had direct experience with AI-assisted writing, allowing their responses to reflect actual learning experiences rather than hypothetical opinions.

Respondent

The population consisted of 814 tenth-grade students enrolled at SMK Negeri 2 Bengkulu City during the 2025/2026 academic year. The students were distributed across 22 classes representing different vocational study programs. The target population included all tenth-grade students at the school who participated in English language learning activities during the academic year. However, the 70 participants did not represent the entire population. They constituted a selected sample drawn from the target population based on predetermined inclusion criteria.

The sample comprised 70 tenth-grade students selected through purposive sampling, a non-probability sampling technique in which researchers deliberately select participants who possess characteristics relevant to the research objectives. Etikan & Bala (2017) explain that purposive sampling enables researchers to recruit participants with specific knowledge or experiences relevant to a study. This technique was appropriate because the research focused on students who had experience using AI applications to support English writing. Therefore, the researchers selected eligible students rather than including all 814 students in the population.

Four inclusion criteria guided participant selection. First, students had to be enrolled in the tenth grade at SMK Negeri 2 Bengkulu City during the 2025/2026 academic year. Second, they had to participate in English writing learning activities. Third, they had to have experience using AI applications, such as ChatGPT, Grammarly, or QuillBot, to support English writing tasks. Fourth, they had to voluntarily agree to participate by completing the online questionnaire. Based on these criteria, the final sample consisted of 70 eligible students whose prior experience enabled them to provide relevant perceptions of AI-assisted English writing.

Instrument

The research instrument used in this study was an adapted questionnaire. Creswell & Creswell (2018) describe a research instrument as a tool for measuring variables and collecting

data from participants. Questionnaires are particularly suitable for quantitative survey research because they provide standardized responses that can be analysed statistically.

The questionnaire was adapted from the instrument developed by [Zulaiha & Triana \(2023\)](#), which investigated students' perceptions of Open Educational Resources (OER) in English language learning. The instrument was selected because its conceptual framework addressed students' perceptions of educational technology in language learning. For the present study, the original OER context was modified to examine students' perceptions of Artificial Intelligence (AI) applications for English writing. The adaptation involved adjusting the item wording and technological context to reflect AI-assisted writing while retaining the underlying measurement structure. This process followed the principles of instrument adaptation described by [Beaton et al. \(2000\)](#).

The final questionnaire consisted of 20 positively worded statements covering six dimensions: motivation, quality of learning, value of AI, cognitive learning, affective learning, and course quality. Each statement used a five-point Likert scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). Higher scores indicated more positive perceptions of AI-assisted English writing.

Content validity was assessed through expert judgment. Two experts in English Language Teaching and Educational Technology reviewed the questionnaire for relevance, clarity, language appropriateness, and alignment with the intended constructs. This review helped establish whether the adapted items adequately represented the concepts being investigated ([Creswell & Creswell, 2018](#)).

A pilot study involving 30 students with characteristics similar to those of the target respondents was conducted before the main survey. These students were excluded from the final sample. Pilot testing helped assess the preliminary quality of the adapted instrument ([Fraenkel et al., 2019](#); [Johanson & Brooks, 2010](#)). Item validity was examined using the Pearson Product-Moment correlation at a significance level of 0.05. With 30 participants, the critical *r*-table value was 0.361. All 20 items had calculated correlation coefficients greater than 0.361 and were considered valid.

Instrument reliability was assessed using Cronbach's alpha. The questionnaire obtained a coefficient of 0.91, indicating very high internal consistency. A coefficient above 0.70 is generally considered acceptable for research instruments, while values above 0.90 indicate high internal consistency ([Sürücü & Maslakçı, 2020](#)). These results supported the use of the adapted questionnaire for collecting data on students' perceptions of AI-assisted English writing.

Procedure

The data collection procedure was conducted systematically. First, the researcher obtained permission from the school principal and English teachers of SMK Negeri 2 Bengkulu City. Second, the questionnaire was reviewed through expert validation and subsequently tested in the pilot study. Minor revisions were made to improve wording, grammatical accuracy, and clarity while maintaining the conceptual meaning of the items.

The final questionnaire was administered online using Google Forms. The use of an online questionnaire facilitated efficient data collection and enabled the responses to be automatically organized for subsequent analysis. The questionnaire link was distributed to the selected students through the English teachers and class WhatsApp groups. Before accessing the questionnaire, participants received information concerning the purpose of the study, the voluntary nature of participation, confidentiality of responses, and informed consent. Only students who agreed to participate voluntarily proceeded to complete the questionnaire. After submission, the responses were automatically recorded in Google Forms. The collected data were exported to Microsoft Excel for initial organization and then entered IBM SPSS Statistics Version 23 for statistical analysis. This procedure facilitated data screening, coding, organization, and preparation for descriptive analysis.

Data Analysis

The questionnaire data were analyzed using descriptive statistics in IBM SPSS Statistics Version 23. Since the purpose of the study was to describe students' perceptions rather than test causal relationships, the analysis focused on frequencies, percentages, mean scores, and standard deviations.

Frequency and percentage were calculated to describe the distribution of students' responses to each questionnaire item. The mean score was calculated to determine the central tendency of students' perceptions, both for the overall instrument and for each dimension. Higher mean scores represented more positive perceptions of AI-assisted English writing. Standard deviation was calculated to indicate the degree of variation in students' responses and to show how closely individual responses were distributed around the mean.

The analysis was conducted across the six dimensions measured by the questionnaire: motivation, quality of learning, value of AI, cognitive learning, affective learning, and course quality. The descriptive results for each dimension were then compared with the overall perception score to identify the dimensions receiving relatively higher or lower responses. The resulting statistical description was used to answer the research question concerning vocational high school students' perceptions of using Artificial Intelligence for English writing skills.

FINDINGS AND DISCUSSION

Finding

This section presents the results of the descriptive statistical analysis of students' perceptions toward the use of Artificial Intelligence (AI) for English writing skills at SMK Negeri 2 Bengkulu City. The analysis was based on responses from 70 tenth-grade students to a questionnaire consisting of 20 items distributed across six dimensions: Motivation, Quality of Learning, Value of AI, Cognitive Learning, Affective Learning, and Course Quality. The results are presented through mean scores, percentages, and perception categories to describe students' overall perceptions and their responses across the six dimensions.

Overall Students' Perceptions of AI for English Writing

Table 1 presents the descriptive statistics for students' perceptions of using AI for English writing.

Table 1. Descriptive Statistics of Students' Perceptions toward AI for English Writing

Dimension	Mean	Percentage	Category
Motivation	4.24	84.8%	Very High
Quality of Learning	4.19	83.8%	High
Value of AI	4.23	84.6%	Very High
Cognitive Learning	4.16	83.2%	High
Affective Learning	4.21	84.2%	Very High
Course Quality	4.26	85.2%	Very High
Overall	4.22	84.4%	Very High

As shown in Table 4.1, the overall mean score of students' perceptions was 4.22, equivalent to 84.4%, which falls into the Very High category. This result indicates that students generally held highly positive perceptions toward the use of AI in English writing learning. The result also shows that the positive perception was not concentrated in only one aspect of learning but was reflected across all six dimensions measured by the questionnaire.

Among the six dimensions, Course Quality obtained the highest mean score, with $M = 4.26$ (85.2%), followed by Motivation, with $M = 4.24$ (84.8%), and Value of AI, with $M = 4.23$ (84.6%). Affective Learning obtained $M = 4.21$ (84.2%), while Quality of Learning obtained $M = 4.19$ (83.8%). Cognitive Learning recorded the lowest mean score, at $M = 4.16$ (83.2%). Although Cognitive Learning had the lowest score among the six dimensions, it remained within the High category. Thus, the difference between the highest and lowest dimensions was relatively small, indicating a generally consistent pattern of positive perceptions across the measured aspects.

Students' Perceptions of Motivation

The Motivation dimension obtained a mean score of 4.24, corresponding to 84.8%, and was categorized as Very High. This result indicates that students perceived AI positively in relation to their motivation to learn English writing. The result suggests that AI-supported writing activities were associated with students' interest, participation, and willingness to engage in writing tasks.

The high level of motivation is consistent with the perspective of [Deci & Ryan \(2000\)](#), particularly their explanation that motivation is influenced by learners' perceptions of autonomy, competence, and relatedness. In the context of AI-assisted writing, students may experience greater autonomy because AI applications allow them to explore ideas, obtain suggestions, and revise their writing independently. AI-generated feedback and writing assistance may also contribute to students' perceptions of competence by helping them address difficulties encountered during writing activities.

The result is also consistent with previous findings that AI-supported learning environments can enhance students' motivation by providing accessible assistance, personalized support, and immediate feedback ([Holmes & Miao, 2023](#); [Pratama & Hastuti, 2024](#)). The 84.8% score therefore demonstrates that motivation was one of the aspects in which students expressed particularly positive perceptions of AI-assisted English writing.

Students' Perceptions of Quality of Learning

The Quality of Learning dimension obtained a mean score of 4.19, equivalent to 83.8%, and was categorized as High. This result indicates that students perceived AI as contributing positively to the quality of their English writing learning experiences. The score suggests that AI was regarded as a supportive learning medium that could provide additional learning opportunities, facilitate engagement with writing activities, and support the achievement of learning objectives.

The finding can be viewed in relation to [Kolb \(1984\)](#) Experiential Learning Theory, which emphasizes active involvement, reflection, and interaction between learners and their learning environment. In AI-assisted writing, students can interact with writing suggestions, explore ideas, receive feedback, and revise their texts. Such activities provide opportunities for students to engage actively with the writing process rather than simply receiving information.

The result is also consistent with [Zawacki-Richter et al. \(2019\)](#), who emphasize the potential of AI to enhance educational experiences through personalized learning support, adaptive assistance, and flexible access to learning resources. In the present study, the 83.8% score indicates that students recognized AI as a useful complement to classroom instruction and as an additional source of explanations and writing support.

Students' Perceptions of the Value of AI

The Value of AI dimension obtained a mean score of 4.23, equivalent to 84.6%, and was categorized as Very High. This result indicates that students perceived AI as a valuable resource for supporting their English writing development. The result suggests that students recognized the usefulness of AI in providing learning materials, explanations, examples, feedback, and additional assistance during writing activities.

The finding corresponds with the concept of perceived usefulness in the Technology Acceptance Model (TAM) proposed by [Davis \(1989\)](#). According to this perspective, users are more likely to accept and continue using technology when they perceive that it provides practical benefits and improves their performance. The 84.6% score indicates that students generally perceived AI as beneficial for completing English writing activities and supporting their learning outcomes.

The finding is also consistent with [Zawacki-Richter et al. \(2019\)](#), who highlight the potential of AI to provide personalized learning support, facilitate access to knowledge, and enhance students' learning experiences. In this study, students' perceptions indicate that AI

was viewed as a complementary educational resource rather than simply as a replacement for teachers or conventional learning materials.

Students' Perceptions of Cognitive Learning

The Cognitive Learning dimension recorded the lowest mean among the six dimensions, with $M = 4.16$, equivalent to 83.2%, and was categorized as High. Despite having the lowest score, the result still demonstrates a positive perception. Students perceived AI as supporting cognitive processes involved in English writing, including organizing information, developing ideas, evaluating suggestions, and engaging with writing tasks.

The result is relevant to the concept of cognitive engagement, which refers to learners' active involvement in processing, analyzing, and applying knowledge (Fredricks et al., 2004). The finding suggests that students perceived AI as more than a tool for obtaining answers. Instead, their responses indicate that AI could support interaction with information, reflection on feedback, and decision-making during writing. These processes are relevant to writing because effective writing requires planning, organizing, revising, and evaluating ideas.

The result is also consistent with Holmes & Tuomi (2022), who argue that the educational value of AI depends partly on how learners interact with AI-generated outputs. When students examine suggestions, compare alternatives, and integrate information according to their own understanding, AI may support meaningful learning. Thus, the 83.2% result indicates that students perceived AI as providing cognitive support during English writing activities.

Students' Perceptions of Affective Learning

The Affective Learning dimension obtained a mean score of 4.21, equivalent to 84.2%, and was categorized as Very High. This result indicates that students perceived AI positively in relation to the emotional and attitudinal aspects of English writing learning. The finding suggests that AI-supported writing activities were associated with students' confidence, interest, attitudes, and psychological readiness to engage in writing tasks.

The result is consistent with Deci & Ryan (2000), who emphasize the role of competence and autonomy in learners' motivation and engagement. In AI-assisted writing, immediate feedback and writing suggestions may help students develop a stronger sense of competence and greater confidence in expressing ideas. The finding is also consistent with Holmes & Miao (2023), who highlight the potential of AI to provide personalized support and contribute to more engaging learning environments.

Students' Perceptions of Course Quality

The Course Quality dimension obtained the highest mean score, 4.26, equivalent to 85.2%, and was categorized as Very High. This result indicates that students evaluated the quality of AI-supported English writing learning positively. Among the six dimensions, Course Quality therefore represented the strongest aspect of students' perceptions.

The high score indicates that students considered AI integration to provide meaningful learning experiences, relevant resources, and useful support for English writing. The result is consistent with the Technology Acceptance Model (TAM) proposed by Davis (1989), particularly the role of perceived usefulness in technology acceptance. Students' positive responses suggest that they considered AI beneficial for improving the effectiveness and quality of English writing instruction.

The finding is also consistent with Zawacki-Richter et al. (2019), who explain that AI can contribute to educational quality by providing personalized support, immediate feedback, and flexible access to learning resources. In addition, Holmes & Miao (2023) emphasize AI's potential to support engagement, personalization, and continuous learning. The 85.2% score consequently demonstrates that students viewed AI-supported writing instruction as relevant and beneficial to their learning experience.

Taken together, the six dimensions demonstrate a consistently positive pattern of students' perceptions toward AI-assisted English writing. The overall score of 4.22 (84.4%),

categorized as Very High, indicates that students generally perceived AI as a beneficial educational technology. The highest score was found in Course Quality (4.26; 85.2%), whereas the lowest was found in Cognitive Learning (4.16; 83.2%). Motivation, Value of AI, Affective Learning, and Quality of Learning also produced positive results, with scores ranging from 83.8% to 84.8%.

The findings therefore indicate that students perceived AI as supporting several aspects of English writing learning, including motivation, learning quality, perceived value, cognitive engagement, affective involvement, and course quality. At the same time, the results represent students' perceptions rather than direct measurements of writing performance. Consequently, the positive perception scores should not be interpreted as direct evidence that AI improved students' actual writing achievement. The findings describe how students evaluated their experiences with AI-assisted English writing and provide a basis for further investigation using direct writing-performance measures, experimental comparisons, or longitudinal designs.

Discussion

English writing is widely regarded as one of the most demanding language skills for EFL learners because it requires the simultaneous integration of linguistic knowledge, idea generation, textual organization, critical thinking, and technical accuracy (Hyland, 2019; Nugraheni et al., 2024). These demands can be particularly challenging for vocational secondary students, who may experience difficulties in generating and developing ideas, organizing written texts coherently, applying grammatical rules accurately, and maintaining confidence throughout the writing process. In this context, the emergence of Artificial Intelligence (AI) has introduced new possibilities for supporting English writing instruction. AI-based applications such as *ChatGPT*, *Grammarly*, and *QuillBot* can provide assistance at different stages of writing, including brainstorming, drafting, language correction, revision, and final editing (Anwer, 2026). Although previous studies have examined AI in general language learning and have predominantly involved university students, empirical evidence concerning vocational high school students' perceptions of AI specifically in English writing instruction remains relatively limited. The present study addresses this gap by examining the perceptions of 70 students at SMK Negeri 2 Bengkulu City through a descriptive quantitative survey consisting of 20 questionnaire items across six dimensions: Motivation, Quality of Learning, Value of AI, Cognitive Learning, Affective Learning, and Course Quality.

The findings demonstrate a consistently positive perception of AI across all six dimensions. The overall mean score was 4.22, equivalent to 84.4%, which falls within the Very High category. Among the six dimensions, Course Quality received the highest mean score at 4.26 (85.2%), followed by Motivation at 4.24 (84.8%), Value of AI at 4.23 (84.6%), Affective Learning at 4.21 (84.2%), Quality of Learning at 4.19 (83.8%), and Cognitive Learning at 4.16 (83.2%). The relatively narrow range among these scores suggests that students did not perceive AI as beneficial in only one particular aspect of learning. Instead, they viewed it as a multidimensional educational resource that contributed to their motivation, learning experiences, perceived usefulness of technology, cognitive engagement, emotional experiences, and overall evaluation of English writing instruction.

These findings are broadly consistent with previous research on AI-assisted English language learning. The very high perceptions reported by the students indicate that AI was generally regarded as a useful and supportive educational technology. This result supports Rahman (2026), who explains that AI writing tools can facilitate the writing process by offering continuous assistance and helping learners overcome common difficulties associated with writing. The findings concerning Motivation and Quality of Learning also correspond with Pratama & Hastuti (2024), who found that AI can create more engaging, interactive, and personalized learning experiences. Thus, the positive perceptions observed in the present study can be understood partly through AI's capacity to provide students with accessible support while they work through different stages of writing.

The relatively high score for Cognitive Learning is particularly noteworthy. Although Cognitive Learning obtained the lowest mean among the six dimensions, its score of 4.16 (83.2%) was still categorized as high. This finding suggests that students did not perceive AI merely as a mechanism for obtaining ready-made answers. Rather, they perceived AI as helping them organize information, consider alternative expressions, examine suggestions, and reflect on their written work. This observation is important because one concern surrounding AI-assisted writing is that students may become passive recipients of automatically generated responses. The present findings instead suggest that, from the students' perspective, AI can function as a cognitive support mechanism when its outputs are examined and incorporated into the writing process.

The findings further correspond with previous studies concerning motivation and engagement. The positive perceptions in these dimensions support [Pratama & Hastuti \(2024\)](#) and [Khan \(2024\)](#), who reported that AI can increase students' enjoyment, interest, and willingness to participate in writing-related activities. The findings concerning Quality of Learning and Value of AI are also consistent with [Utami & Winarni \(2023\)](#) and [Aljuaid \(2024\)](#), who emphasized the contribution of AI to learning through personalized feedback, adaptive assistance, and interactive opportunities. Similarly, the present findings reinforce [Rahman \(2026\)](#) and [Kusumo et al. \(2024\)](#), who demonstrated that AI can provide accessible explanations and learning support that complement conventional resources such as textbooks. These characteristics may help students understand English writing concepts in ways that are more responsive to their immediate learning needs.

The findings related to cognitive and affective learning also extend previous evidence. Students' positive perceptions concerning the organization of learning materials and evaluation of AI-generated content are compatible with [Zulfa et al. \(2023\)](#) and [Jannath and Jannath & Akter \(2026\)](#), who argue that AI can support critical thinking, reflective learning, and self-regulation when learners actively engage with AI outputs. At the affective level, the positive responses are consistent with [Aljuaid \(2024\)](#) and [Khan \(2024\)](#), who found that AI can reduce writing anxiety and increase confidence by providing low-pressure opportunities for practice, immediate feedback, and independent correction. The findings also correspond with the Technology Acceptance Model (TAM) proposed by [Asif et al. \(2026\)](#), particularly the view that positive attitudes toward technology are influenced by perceived usefulness and the extent to which the technology corresponds to learners' needs.

One important contribution of this study is its focus on vocational secondary education. Much of the existing research on AI-assisted language learning has concentrated on university students or on English learning in broader contexts. The present findings provide evidence that vocational high school students can also perceive AI positively as a resource for developing English writing. This finding extends the existing discussion of AI-assisted language learning by demonstrating that positive perceptions are not limited to higher education. In vocational education, AI may also serve as a relevant learning resource because students are preparing for educational and professional environments increasingly shaped by digital technologies.

The positive perceptions can further be explained by AI's ability to address several common challenges encountered by EFL learners. AI-assisted writing tools can reduce cognitive load by offering assistance with grammar, vocabulary, and language accuracy, thereby allowing students to devote greater attention to idea development and text organization ([Nugraheni et al., 2024](#)). Immediate and non-judgmental feedback may also reduce students' anxiety because AI suggestions can be experienced as supportive guidance rather than formal assessment. This may encourage students to practice writing more frequently and experiment with expressing their ideas ([Aljuaid, 2024](#)).

Another important characteristic is personalization. AI allows learners to request explanations, revise their texts, compare alternative expressions, and revisit learning materials according to their individual abilities and learning pace. Such flexibility is difficult to achieve when learning depends exclusively on limited classroom time or scheduled teacher consultation ([Holmes & Miao, 2023](#)). For vocational students, the perceived relevance of AI

may also be associated with future professional requirements. As digital technologies increasingly form part of contemporary workplaces, familiarity with AI may be perceived as a useful competence alongside English communication and writing skills.

The six dimensions further illustrate the functional and affective reasons underlying students' positive perceptions. In terms of Motivation, students may perceive AI as making writing less intimidating and more engaging because immediate assistance reduces the initial fear of making mistakes. Regarding Quality of Learning, AI offers flexible, on-demand support that can be accessed throughout the writing process. In relation to Value of AI, students benefit from the combination of explanations, examples, and opportunities for writing practice within a single technological environment. Unlike static learning materials, AI can respond to specific questions and provide individualized assistance.

From the perspective of Cognitive Learning, AI can help students organize ideas while simultaneously encouraging them to examine and evaluate AI-generated suggestions. In this sense, AI may function as a drafting partner rather than a substitute for students' own thinking. The positive perception of Affective Learning can similarly be associated with reduced frustration and a stronger sense of achievement as students receive continuous feedback and observe improvements in their writing. Finally, the high Course Quality score suggests that students considered AI-assisted instruction compatible with their expectations of contemporary, practical, and technology-oriented education.

Taken together, these findings indicate that students perceived AI as more than a conventional writing assistance tool. It was viewed as a learning support system that could strengthen motivation, improve the perceived quality of learning, facilitate cognitive engagement, support positive emotional experiences, and contribute to confidence in English writing. Its perceived benefits appear to arise from both functional characteristics, such as immediate feedback and personalized assistance, and affective characteristics, such as reduced anxiety and increased confidence.

Importantly, the results suggest that AI was perceived more as a scaffolding resource than as a shortcut or replacement for learning. Students appeared to value AI for helping them overcome linguistic barriers, generate and organize ideas, and revise their writing. When combined with appropriate teacher guidance, AI therefore has the potential to facilitate more active participation in writing activities and provide additional support for learners who experience greater difficulties. However, such benefits depend on students' ability to use AI critically and ethically rather than simply accepting automatically generated content.

Despite these positive findings, the results should be interpreted with caution. The study measures students' perceptions and attitudes toward AI rather than objectively measuring improvement in writing performance. A very positive perception does not necessarily demonstrate higher writing achievement, improved test scores, or greater independent writing ability. Future research should therefore examine the relationship between AI-assisted writing and measurable changes in students' writing outcomes, while also investigating how teacher guidance, critical evaluation, and ethical AI use influence the effectiveness of AI-supported English writing instruction.

CONCLUSIONS

This study found that students at SMK Negeri 2 Bengkulu City had very positive perceptions of AI use in English writing, with an overall mean of 4.22 (84.4%). Course Quality scored highest ($M = 4.26$; 85.2%), while Cognitive Learning scored lowest ($M = 4.16$; 83.2%), highlighting the need to strengthen independent thinking and critical evaluation. These findings provide evidence of AI-assisted writing in Indonesian vocational education. However, the study involved only 70 purposively selected students from one school and measured perceptions rather than actual writing performance. Therefore, the results cannot establish AI's effectiveness in improving writing achievement or be generalized broadly. Future research should involve multiple schools and assess writing performance using experimental, mixed-method, or longitudinal designs. Teachers should integrate AI into

writing activities while promoting critical thinking, independent learning, and academic integrity.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the leadership, English teachers, and tenth-grade students of SMK Negeri 2 Bengkulu City for their support, cooperation, and participation throughout the research process. The authors also appreciate the contributions of the experts who reviewed the research instrument and provided valuable feedback to improve its clarity and relevance. Their assistance and cooperation were essential to the successful completion of this study. The authors further acknowledge Universitas Bengkulu for providing an academic environment that supported the research and manuscript preparation.

DECLARATIONS

Author Contributions: Rahayu and Ira Maysarah contributed to the conceptualization, methodology, investigation, data collection, formal analysis, and writing of the original draft. Iis Sujarwati contributed to supervision, validation, and critical revision of the manuscript. All authors reviewed and approved the final manuscript. **Declaration of Generative AI Use:** ChatGPT (OpenAI) was used to assist with language editing and manuscript refinement. The authors reviewed and revised the generated suggestions and take full responsibility for the final content. **Conflict of Interest:** The authors declare no conflict of interest. **Funding:** This research received no specific funding. **Ethical Approval and Informed Consent:** Participation was voluntary, and informed consent was obtained from the participants or their legal guardians, as applicable. The study followed relevant ethical principles for research involving human participants. **Data Availability:** The data supporting the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

- Abdeta, M. T., Olamo, T. G., & Woldeyes, K. M. (2026). Effects of collaborative writing on EFL learners' writing accuracy, fluency, and complexity: Secondary school in focus. *sage open*, 16(1), 21582440251413940. <https://doi.org/10.1177/21582440251413940>
- Aini, N., & Basthomi, Y. (2025). Integration of artificial intelligence (AI) in learning English writing in higher education. *Journal of Learning for Development*, 12(2), 364–371. <https://files.eric.ed.gov/fulltext/EJ1480327.pdf>
- Aljuaid, H. (2024). The impact of artificial intelligence tools on academic writing instruction in higher education: A systematic review. *Arab World English Journal (AWEJ) Special Issue on ChatGPT* <https://doi.org/10.31235/osf.io/ph24v>
- Anwer, B. (2026). Trust in chatgpt and perceived academic writing improvement: A tam-based quantitative study in an ESL context. *International Journal of Technology in Education and Science*, 10(1), 162–177. <https://doi.org/10.46328/ijtes.5282>
- Asif, M., Shao, Z., Sharif, M. N., & Gao, T. (2026). How social influence and innovativeness shape technology perceptions and usage intentions: A tam extension. *bmc psychology*, 14(1), 944. <https://doi.org/10.1186/s40359-025-03845-z>
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures. *Spine*, 25(24), 3186–3191. <https://doi.org/10.1097/00007632-200012150-00014>
- Bespalyy, S., & Bepalaya, Y. (2025). Developing sustainable development competencies in university students: Academic expectations and labor market requirements. *Frontiers in Education*, 10, 1713352. <https://doi.org/10.3389/feduc.2025.1713352>
- Creswell & Creswell. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.) <https://doi.org/10.1177/1558689817751775>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>

- Deci, E. L., & Ryan, R. M. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67
<https://doi.org/10.1006/ceps.1999.1020>
- Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), 149 <https://doi.org/10.15406/bbij.2017.05.00148>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education (10th ed.)*. McGraw-Hill Education <https://doi.org/10.1111/jade.12253>
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research* <https://doi.org/10.3102/00346543074001059>
- Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools*. Alliance for Excellent Education <https://doi.org/10.58680/vm20076130>
- Harmer, J. (2006). *How to teach writing*. Pearson Education Limited.
- Holmes, W., & Miao, F. (2023). *Guidance for Generative AI in Education and Research*. UNESCO Publishing <https://doi.org/10.54675/ewzm9535>
- Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542–570. <https://doi.org/10.1111/ejed.12533>
- Hyland, K. (2019). *Second language writing (2nd ed.)*. Cambridge University Press <https://doi.org/10.1016/j.jslw.2019.100675>
- Jannath, H., & Akter, A. (2026). Artificial intelligence (AI) for automated writing evaluation in TESOL: Effectiveness and challenges. *Jollt journal of languages and language teaching*, 14(1), 273–287. <https://doi.org/10.33394/jollt.v14i1.18165>
- Johanson, G. A., & Brooks, G. P. (2010). Initial scale development: Sample size for pilot studies. *Educational and Psychological Measurement*, 70(3), 394–400.
- Khan, A. L. (2024). Artificial intelligence tools in developing English writing skills: Bangladeshi university EFL students' perceptions. *English Education: Jurnal Tadris Bahasa Inggris*, 17(2). <https://doi.org/10.24042/ee-jtbi.v17i2.24369>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.
- Kusumo, Y. W., Simanjuntak, O. S., Wiendijarti, I., & Utami, Y. S. (2024). The impact of artificial intelligence on thesis writing skills and quality among students at upn veteran Yogyakarta. *Jurnal Ilmu Komunikasi*, 22(3), 346–361.
- Nakrowi, Z. S., & Lumettu, A. (2025). Two decades of academic writing assessment in higher education: A bibliometric and technological trend analysis of scopus (2000-2025). *International Journal of Learning, Teaching and Educational Research*, 24(10), 279–306.
- Nandha, M. S., & Widiastuty, H. (2024). The impact of artificial intelligence on students' English writing proficiency in language learning. *International Seminar*, 6, 1211–1221. <https://conference.unita.ac.id/index.php/conference/article/view/313>
- Nawir, D. F., Nur, R., Ammade, S., Syawal, S., & Latifa, A. (2025). The impact of artificial intelligence tools on English language learning: A systematic literature review. *Empowerment: Jurnal Ilmiah Program Studi Pendidikan Luar Sekolah*, 14(2), 248–261. <https://doi.org/10.22460/empowerment.v14i2.6222>
- Nugraheni, A. F., Arvianti, G. F., & Arochman, T. (2024). The correlation between the vocabulary mastery and writing skills of the ninth graders of SMP negeri 1 bandongan. 7(1), 35–45.
- Pratama, R. M. D., & Hastuti, D. P. (2024). The use of artificial intelligence to improve EFL students' writing skill. *English Learning Innovation*, 5(1), 13–25. <https://doi.org/10.22219/englie.v5i1.30212>
- Rahman, W. Z. (2026). Artificial intelligence (AI) in English writing skills learning: A systematic review. *ETDC: Indonesian Journal of Research and Educational Review*, 5(2), 981–994. <https://doi.org/10.51574/ijrer.v5i2.4727>
- Utami, S. P. T., & Winarni, R. (2023). Utilization of artificial intelligence technology in an academic writing class: How do Indonesian students perceive? *Contemporary Educational Technology*, 15(4).

- Veri, H. D. F., & Fitria, N. H. (2024). The effectiveness of AI technology in improving academic English writing skills in higher education. *Journal of Language and Literature Studies*, 4(3), 579–593.
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—where are the educators? *International journal of educational technology in higher education*, 16(1), 39. <https://doi.org/10.1186/s41239-019-0171-0>
- Zulaiha, D., & Triana, Y. (2023). Students' perception toward the use of open educational resources to improve writing skills. *Studies in English Language and Education*, 10(1), 174–196. <https://doi.org/10.24815/siele.v10i1.25797>
- Zulfa, S., Dewi, R. S., Hidayat, D. N., Hamid, F., & Defianty, M. (2023). The use of AI and technology tools in developing students' English academic writing skills. *Proceeding International Conference on Education*, 47–63. <https://jurnalfaktarbiyah.iainkediri.ac.id/index.php/proceedings/article/view/1811>