

Using Bard-Generated Feedback on Enhancing Students' Paragraph Writing Skills at a High School in Hanoi: An Action Research Project

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ABSTRACT: This action research explored the impact of Bard-generated feedback on enhancing paragraph writing skills among 47 grade 11 students in Hanoi, using the English textbook 11: Bright textbook over half a semester. Employing a mixed-methods approach, pre- and post-tests measured writing improvements, while surveys and observations captured student perceptions. Results showed significant gains in lexical resource and grammatical accuracy, with students valuing the clear, timely feedback. Integrating Bard into writing instruction proved effective, suggesting teachers adopt AI tools to enhance learning. Future research could examine long-term effects and broader applications.

KEYWORDS: Bard-generated feedback, Paragraph writing, IELTS writing, Action research, Student attitudes

I. INTRODUCTION

English is the most widely spoken language in the world, with over 1.5 billion speakers. It is the official language of 53 countries and is used as a lingua franca in many others. The role of English in society is constantly evolving. As the world becomes more interconnected, English is becoming even more important. In Vietnam, English is becoming increasingly essential for students who want to succeed in school and in their careers as it opens doors to new opportunities and experiences. However, English language learning (ELL) is a complex and challenging process, and writing is one of the most difficult skills for ELLs to master. (Fadli et al., 2021). Students often feel demotivated to write and mark writing as the most difficult skill while acquiring English. In Vietnam, many students struggle with English writing and have no idea when writing a paragraph. Moreover, it is quite challenging to teach this skill, for teachers (M & C, 2019). According to Lacy & Gagich (2018), the writing process follows 6 steps and the last one is called Turn in the Draft, Receive Feedback, and Revise (if needed). It means that feedback is a necessary step to enhance students writing skills. Feedback is one of the essential components of teaching and learning that strives to improve students learning quality including writing activity (Wulandari, 2022). Traditional methods of providing feedback on writing, such as teacher written comments, can be time-consuming and labor-intensive for teachers, especially when they have large classes (Fleckenstein et al., 2023). In recent years, there has been a growing interest in the use of artificial intelligence (AI) to provide feedback on writing. AI-generated feedback can be more efficient and objective, tailored to the individual needs of ELLs and it can provide specific and actionable suggestions for improvement (Dewi et al., 2021). To look for sensible solutions for this problem, many researchers considered conducting studies about how to use a web or tools to give feedback to students more effectively. Similarly, students in the researcher class have been facing many challenges when writing a paragraph in a textbook. In a lesson, only a small number of them receive feedback from the teacher due to the time constraint. For that reason, the researcher also the teacher would like to apply an AI tool called Bard, which enables high school students to receive feedback in paragraph writing.

This research aims to apply Bard-generated feedback teaching to enhance high school students paragraph writing skills. From that goal, two specific objectives have been drawn, which are (1) to evaluate the effectiveness of using Bard-generated feedback, in its free version, to enhance students paragraph writing skills at a high school in Hanoi and (2) to examine their attitudes towards this online generating feedback tool.

With the above purposes, the research questions are:

1. To what extent does Bard-generated feedback enhance 11th grade students' paragraph writing skills?
2. What are the 11th grade students' attitudes towards practicing writing paragraphs with Bard-generated feedback?

This action research project explored the effectiveness of utilizing Bard-generated feedback in enhancing 11th graders English paragraph writing skills. It revolved around an investigation of how an AI tool called Bard that actively supported students to writing a paragraph by giving them feedback on terms of four criteria, such as Task response, Coherent and Cohesion, Lexical resources and Grammatical range.

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Regarding its scope, the research only aimed at evaluating and examining the effectiveness of Bard-generated feedback on the 11th graders paragraph writing skills and their attitude towards this method. It was conducted within 8 weeks in the second half of the first semester of the academic year 2023-2024.

The findings of this study contributed to our understanding of the effectiveness of Bard-generated feedback on English language learners' writing improvement. The findings also provided insights into how feedback given from web Bard can be best used to improve vocabulary used by English learners in their paragraph writing.

The study is significant because it provided empirical evidence that Bard-generated feedback can be an effective tool for improving English language learners' writing proficiency, especially vocabulary. The study was conducted in a real-world setting, with a group of students who are learning English as a second language. This makes the findings of the study more generalizable to other contexts. The study also used a mixed-methods approach, which allowed the researcher to collect both quantitative and qualitative data. This gave them a more comprehensive understanding of the impact of Bard-generated feedback on student writing.

II. LITERATURE REVIEW

1. English writing terms

Terms Related to Writing Skills Writing is a complex cognitive process requiring idea development, organization, and clear expression in Standard English (Graham & Perin, 2007; Fletcher et al., 2018). It communicates meaning concisely to specific audiences, using rhetorical patterns (Matsuda, 2003; National Writing Project).

Paragraph Writing Overview of Paragraph Writing A paragraph is a cohesive group of sentences developing a single main idea, starting on a new line (Cambridge Dictionary; Paul & Elder, 2019). Well-written paragraphs feature unity, logical structure, and descriptive language (Ayu & Zuraida, 2020). Elements of a Paragraph Paragraphs consist of a topic sentence, supporting details, and a concluding sentence (Padučeva, 1974). Purdue OWL's ACE model emphasizes a clear topic sentence, adequate development, and cohesive methods like data citation (Purdue OWL). **Paragraph Writing Process** The writing process includes prewriting, drafting, revising, editing, and publishing, applicable to paragraphs (Lacy & Gagich, 2018; Boardman, 2008). These recursive steps prioritize content initially, refining structure and mechanics iteratively (Gaber, 2003). **Paragraph Writing Teaching Approach** Teaching paragraph writing involves introducing structure, modeling, planning with graphic organizers, drafting, and revising for clarity and coherence (Rockin' Resources; Setyowati & El-Sulukiyyah, 2017). Explicit planning enhances topic sentence clarity and logical flow. **Writing Assessment** Writing assessment methods include rubric-based, portfolio, automated writing evaluation (AWE), and peer assessment (Weigle, 2002). Rubrics ensure fairness, portfolios promote reflection, AWE provides instant feedback, and peer assessment fosters collaboration (Andrade & Du, 2005; Yancey, 2019; Wilson & Roscoe, 2020).

2. Feedback in Writing Skills

Feedback is information addressing performance gaps to improve learning and writing quality (Ramaprasad, 1983; Shute, 2008). It guides error correction and self-regulation, fostering skill development (Hattie & Timperley, 2007; Wulandari, 2022; Boud & Molloy, 2012). Feedback includes teacher, peer, automated, and self-feedback. Teacher feedback is authoritative and specific (Lee, 2017). Peer feedback promotes collaboration (Nicol et al., 2014). Automated Writing Evaluation (AWE), like Bard, offers immediate feedback but needs human complementation for nuance (Wilson & Roscoe, 2020). Self-feedback enhances autonomy (Andrade & Evans, 2012). Feedback bridges teaching and learning, guiding revision, boosting motivation, and fostering a growth mindset (Sadler, 1989). It is essential for improving writing proficiency and student engagement.

3. Computer-assisted language learning (CALL)

Computer-Assisted Language Learning (CALL) has become an integral part of modern language education. It is grounded in multiple theoretical frameworks, including constructivism, communicative language teaching, and socio-cultural theory. Warschauer and Healey (1998) emphasized that CALL supports constructivist approaches by fostering interactive, learner-centered environments where students can engage in meaningful tasks. Similarly, Levy (1997) highlighted how CALL enhances communicative language teaching by promoting authentic language interaction and task-based communication. Egbert (2005) broadly defined CALL as the use of computers to support language teaching and learning in various ways. This includes using software and online platforms to facilitate skill development, monitor learner progress, and provide writing and research tools. Derakhshan et al. (2015) supported this view, adding that CALL can personalize instruction, offer instant feedback, and simulate real-world language use, thus helping students develop essential linguistic competencies. Although CALL has shown positive outcomes in multiple contexts, its effectiveness depends on teachers' ability to use technology meaningfully. Levy (1997) and Garrett (2009) both noted the challenges of implementing CALL in classrooms, including the need for teacher training and reliable access to digital resources.

In practice, CALL encompasses a wide range of tools and techniques, such as language learning in virtual environments, mobile-assisted language learning (MALL), interactive whiteboards, and computer-mediated communication (CMC). These tools not only facilitate language acquisition but also enable students to study autonomously and take control of their learning. CALL is

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particularly effective in reinforcing classroom learning and providing targeted support for students who may struggle with traditional methods.

A recent development within CALL is the emergence of AI-aided digital writing tools. Originally, educational technologies like Automated Writing Evaluation (AWE), Automated Written Corrective Feedback (AWCF), and Automated Essay Scoring (AES) operated separately. However, they have since been integrated into comprehensive AI-powered writing platforms such as Grammarly, Virtual Writing Tutor (VWT), and Bard. These tools are capable of offering holistic writing support by analyzing grammar, vocabulary, coherence, and even scoring essays. As noted by Nazari et al. (2021), these platforms help students refine their writing skills through immediate, automated feedback—making them especially useful for EFL learners practicing academic writing.

Artificial Intelligence (AI), as defined by Popenici and Kerr (2017), includes any automated system designed to mimic human cognitive functions such as learning, problem-solving, and adapting. In the context of language education, AI enhances learning through features like automatic error detection, personalized feedback, and adaptive tutoring. Students today, often described as “digital natives” (Lynch, 2018), are naturally suited to learning with such technologies. Skolverket (2016) further argues that digital tools foster self-directed learning and improve comprehension.

Finally, the necessity and impact of CALL are well documented. Chapelle (2001) asserted that CALL meets the diverse needs of learners through differentiated instruction and flexible learning pathways. Reinders and Benson (2017) also emphasized the role of CALL in promoting equitable access to language learning, encouraging educators to fully integrate such tools into mainstream education.

4. Google Bard: An AI-Powered Writing Assistant

Google Bard is an AI-powered chatbot developed by Google AI, utilizing large language model (LLM) technology to generate coherent, contextually relevant responses. Built on transformer-based architectures similar to those used in GPT-3, Bard can perform a wide range of language tasks, including generating creative text, translating languages, and assisting with academic and research queries (Smith et al., 2023). According to B (2023), Bard has been trained on extensive datasets consisting of text and code, enabling it to serve as a versatile writing tool across domains.

As a creative writing tool, Bard has shown significant potential. Aydın (2023) observed that Bard could produce creative and original content, although occasional instances of nonsensical or plagiarized text were reported. This duality highlights both the power and the limitations of current AI models. Still, Bard's ability to generate engaging textual responses offers great utility in educational settings.

Bard's user-friendly interface is designed to resemble popular messaging platforms, allowing for a low learning curve and an intuitive experience. It features a simple layout with a text input box and a response display area, supporting conversational flow by remembering the context of interactions. Users can engage with Bard in multiple languages, including English and Vietnamese, which makes it particularly suitable for EFL learners who may prefer inputting commands in their native language (Lopez, 2023).

The tool is freely accessible in its basic version, offering key functions like text generation, Q&A, and creative writing support. This democratization of AI allows students, freelancers, and educators to access advanced language tools without financial constraints. Initially launched as a direct competitor to OpenAI's ChatGPT, Bard gained traction in regions where ChatGPT was unavailable, including Vietnam, thereby becoming a useful resource for Vietnamese learners and teachers.

Google Bard is not only considered a creative assistant but also an educational aid. It helps writers overcome common challenges like writer's block, and it provides prompts, stylistic suggestions, and content organization advice. Brown and Lee (2023) noted its usefulness for both novice and experienced writers in generating content and refining expression.

Although Bard has now evolved into a more advanced system under Google's "Gemini" project, this thesis continues to refer to the tool as “Bard,” reflecting its widespread recognition and usage during the research period. The transition from Bard to Gemini signals broader shifts in AI integration, with enhanced multimodal capabilities and deeper machine learning applications. Nonetheless, Bard remains a significant milestone in the application of AI for educational and writing support purposes.

5. Integrating Bard Tool in Paragraph Writing Giving Feedback

The integration of Google Bard, an AI-powered writing assistant, into paragraph writing instruction offers transformative benefits for EFL learners by leveraging natural language processing and machine learning to deliver real-time feedback on grammar, style, and coherence (Ellis, 2023). Bard's immediate suggestions enable students to correct errors during writing, fostering an efficient, iterative process. Its ability to adapt to individual writing styles provides personalized feedback, enhancing engagement and motivation by addressing specific needs, making it more actionable than generic corrections (Ellis, 2023). Additionally, Bard's scalability overcomes traditional feedback limitations, such as time constraints and teacher-to-student ratios, allowing consistent, timely feedback in large or remote classrooms (Mollick, 2023). This accessibility democratizes writing support, ensuring all students benefit. By complementing traditional teaching, Bard supports a blended learning approach, encouraging self-regulation as students revise based on AI-generated insights (Nagelhout, 2023). While Bard excels in mechanical and structural feedback, its integration

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with human instruction can address nuanced aspects like creativity. This study explores Bard's application in Vietnamese EFL contexts, aiming to bridge gaps in scalable, personalized feedback for paragraph writing, enhancing writing proficiency and learner autonomy in real-world classroom settings.

6. Related previous studies and gaps of previous studies

The literature review on AI-generated feedback for English language learners' writing proficiency reveals promising yet limited findings, particularly in Vietnam. Globally, studies like Skolverket (2016) emphasize digital tools' role in fostering self-directed learning, while Wilson and Roscoe (2020) found Automated Writing Evaluation (AWE) systems effective for improving grammar and sentence structure but less so for coherence and argumentation. Shintani et al. (2020) noted peer feedback's strength in enhancing content organization but weakness in addressing language accuracy. Lee (2021) highlighted that automated tools like Turnitin lack the depth of human feedback, and Kurniati and Fithriani (2022) and Fitria (2021) demonstrated that AI tools like AI KAKU and Grammarly improve writing mechanics and learner confidence. In Vietnam, Doan and Phan (2020) reported Grammarly's effectiveness in grammatical range but not in content organization. Phan Thi Ngoc Le (2023) found students value AI's instant feedback but noted limitations in nuanced grammar and creativity, while Nguyen et al. (2023) suggested combining AI with teacher-led workshops for holistic writing improvement. However, research on AI feedback, especially Bard, in Vietnamese EFL contexts is scarce, with limited focus on paragraph writing and a lack of action research in real classroom settings, presenting gaps this study aims to address by exploring Bard's practical application.

III. RESEARCH METHODOLOGY

1. Research Approach and Design

This action research project, conducted in 2023–2024, evaluated Google Bard's effectiveness in enhancing 11th-grade students' English paragraph writing skills using a mixed-method approach, combining quantitative (pre-/post-tests, Likert scale questionnaires, multiple-choice, closed-ended questions) and qualitative (open-ended questions, teacher observations) data (Creswell & Plano Clark, 2018).

The design followed Burns' (2009) action research cycle: planning, acting, observing, reflecting to systematically improve teaching practices through iterative interventions.

2. Planning and Action

In the planning phase, the researcher identified paragraph writing challenges among 47 grade 11 students in Hanoi, formulated research questions, and designed an eight-week intervention using Bard feedback aligned with IELTS Task 2 criteria (task response, coherence, lexical resource, grammar). Training ensured students used Bard effectively on personal devices, with teacher supervision maintaining focus. The action phase involved students writing 120–150-word paragraphs, submitting drafts to Bard, and revising based on feedback, with teacher guidance addressing initial confusion (e.g., adding linking words like "Furthermore") (Burns, 2009).

3. Setting and Participants

The study occurred at a technology-equipped high school in Thanh Tri, Hanoi, using the Tiếng Anh 11: Bright textbook, approved for B1-level proficiency (Ministry of Education, 2018). Participants included 47 students (11 boys, 36 girls, A1–B1 proficiency), familiar with learner-centered approaches, facing challenges in paragraph writing due to large class sizes (45–50 students).

4. Data Collection

Pre- and post-tests, adapted from the textbook and validated by expert review, assessed writing skills (Brown, 2006). Classroom observations, using an adapted rubric, tracked engagement and task suitability (McNiff & Whitehead, 2011). Two questionnaires, administered in weeks 1 and 8, captured attitudes toward Bard via Likert scales, open-ended, and closed-ended questions (Patton, 2015).

5. Data Analysis

Quantitative data from tests underwent paired t-tests using SPSS, while questionnaire responses were analyzed descriptively for trends. Qualitative data from observations and open-ended questions were interpreted to assess Bard's impact on writing proficiency and student perceptions, with peer reviews 1 and teacher scaffolding enhancing outcomes in this EFL context.

IV. FINDINGS AND DISCUSSION:

1. Overview

This eight-week action research study, conducted in 2023–2024 with 47 grade 11 students in Hanoi, Vietnam, investigated the impact of Bard-generated feedback on English paragraph writing skills and student attitudes. Using a mixed-method approach, the study employed pre- and post-tests, questionnaires, and teacher observations to address two research questions: (1) To what

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extent does Bard-generated feedback enhance paragraph writing skills? (2) What are students' attitudes toward practicing writing with Bard feedback? Results revealed significant improvements in writing proficiency and positive shifts in student perceptions, highlighting Bard's efficacy in EFL contexts, though limitations in stylistic feedback suggest the need for teacher support.

2. Test Results

Pre- and post-tests, analyzed via paired t-tests using IBM SPSS ($p < .001$), assessed writing skills based on IELTS Task 2 criteria: Task Achievement, Coherence and Cohesion, Lexical Resource, and Grammatical Range and Accuracy. Task Achievement scores increased from 4.926 to 5.181 (mean difference: -0.2553, $t = -5.984$), indicating students better addressed essay prompts. Coherence and Cohesion improved from 4.851 to 5.138 (mean difference: -0.2872, $t = -6.051$), reflecting enhanced logical organization and use of cohesive devices. Lexical Resource showed the largest gain, rising from 5.404 to 5.989 (mean difference: -0.5851, $t = -7.500$), suggesting significant vocabulary expansion. Grammatical Range and Accuracy rose from 5.394 to 5.957 (mean difference: -0.5638, $t = -8.165$), indicating improved sentence complexity and accuracy. The overall score increased from 5.213 to 5.628 (mean difference: -0.4149, $t = -7.210$), with reduced standard deviation (0.6573 to 0.6296), showing consistent improvement across the group. Score distribution analysis revealed a shift from lower mid-range scores (>3.5 to <5) decreasing from 51.1.

Table 1. Paired Samples Statistics of the Test Scores

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Task achievement - Pre-test	4.926	47	.6425	.0937
	Task achievement - Post-test	5.181	47	.6463	.0943
Pair 2	Coherence and cohesion - Pre-test	4.851	47	.6334	.0924
	Coherence and cohesion - Post-test	5.138	47	.6316	.0921
Pair 3	Lexical resource - Pre-test	5.404	47	.7564	.1103
	Lexical resource - Post-test	5.989	47	.7109	.1037
Pair 4	Grammatical range and accuracy- Pre-test	5.394	47	.7513	.1096
	Grammatical range and accuracy- Post-test	5.957	47	.7790	.1136
Pair 5	Score - Pretest	5.213	47	.6573	.0959
	Score - Post-test	5.628	47	.6296	.0918

Table 2. Paired Samples Test of the Test Scores

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Task achievement - Pre-test - Task achievement - Post-test	-.2553	.2925	.0427	-.3412	-.1694	-5.984	46	.000

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Pair 2	Coherence and cohesion - Pre-test – Coherence and cohesion - Post-test	-.2872	.3255	.0475	-.3828	-.1917	-6.051	46	.000
Pair 3	Lexical resource - Pre-test- Lexical resource - Post-test	-.5851	.5349	.0780	-.7421	-.4281	-7.500	46	.000
Pair 4	Grammatical range and accuracy - Pre-test - Grammatical range and accuracy -Post-test	-.5638	.4734	.0691	-.7028	-.4248	-8.165	46	.000
Pair 5	Score - Pretest - Score - Post-test	-.4149	.3945	.0575	-.5307	-.2991	-7.210	46	.000

3. Questionnaire Findings

Open-ended questions

Open-ended questions (Q.11–14) provided qualitative insights into students' perceptions of Bard-generated feedback. For Q.11 ("In which terms do you find Bard most useful? Why?"), 46–47% of 47 students highlighted Bard's effectiveness in enhancing lexical resource, citing precise word and phrase suggestions that enriched writing. About 38–40% noted improvements in grammatical range and accuracy due to detailed corrections, while only 8–10% and 5% found it helpful for coherence and cohesion or task response, respectively. In Q.12 ("In which aspects can't Bard-generated feedback help?"), students reported Bard's limitations in addressing stylistic nuances, such as tone or personal voice, with feedback often being generic or repetitive, hindering authentic expression. For Q.13 ("What suggestions for making Bard feedback more engaging?"), students proposed interactive options to choose revisions with explanations and peer discussions to debate suggestions, fostering collaboration. In Q.14 ("First impression of Bard?"), students initially viewed Bard as a helpful tool for grammar and vocabulary corrections but later noted its contextual and tonal limitations, though overall experiences remained positive. Teachers observed high responsiveness, with students applying feedback to improve writing confidence and competence.

Multiple-choice Questions

Multiple-choice questions quantified students' experiences, particularly in Q.11, where students selected the writing aspects most impacted by Bard. The majority identified lexical resource and grammatical range and accuracy as the primary areas of improvement, aligning with open-ended responses. These results confirmed Bard's strength in refining vocabulary and correcting grammatical errors, with less impact on coherence and task response.

Close-ended Questions

Close-ended questions provided quantifiable data on satisfaction and effectiveness. In Q.11 ("Do you find Bard-generated feedback helpful in improving your paragraph writing?"), most students responded positively, reinforcing Bard's perceived utility. In Q.14 ("Would you recommend using Bard-generated feedback to other students?"), the majority indicated they would, reflecting high satisfaction with Bard's contributions to writing development. These responses underscored Bard's effectiveness in technical writing skills and its positive reception among students.

4. Likert scale-based statements

Pre- and post-intervention questionnaires, analyzed via IBM SPSS, revealed shifts in 47 grade 11 students' attitudes toward paragraph writing and Bard-generated feedback in a 2023–2024 Hanoi study. Preintervention, students showed low enthusiasm for writing (mean: 2.28, SD: 0.949), struggled with idea organization (mean: 2.53, SD: 0.929), and lacked confidence in coherence (mean: 1.94, SD: 1.009), though they felt moderately confident in vocabulary (mean: 3.13, SD: 1.115) and grammar (mean: 3.34, SD: 0.984). Familiarity with AI tools like Bard was low (mean: 1.89, SD: 1.147), but students valued feedback (mean: 3.57, SD:

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1.156) and showed slight interest in AI feedback (mean: 2.57, SD: 1.137). Post-intervention, attitudes improved significantly. Students reported enhanced writing skills (mean: 3.91, SD: 0.775), better mistake identification (mean: 3.66, SD: 0.915), and clear feedback (mean: 3.57, SD: 0.878). Revising became easier (mean: 3.47, SD: 1.080), with improved organization (mean: 3.72, SD: 1.015), vocabulary (mean: 4.19, SD: 0.680), and grammar (mean: 4.04, SD: 0.751). Confidence in writing (mean: 3.74, SD: 0.896) and task response (mean: 3.62, SD: 1.095) increased, with Bard deemed interesting and time-saving (mean: 4.19, SD: 0.680). Variability in responses suggests diverse experiences, but overall, Bard feedback enhanced engagement, confidence, and writing proficiency in this EFL context.

Table 3. Descriptive Statistics of Students' Attitudes towards Learning Writing and four writing criteria before the Intervention

Descriptive Statistics							
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
1. I enjoy writing paragraphs in English.	47	4	1	5	2.28	.949	.900
2. I find it easy to organize my ideas when writing a paragraph.	47	3	1	4	2.53	.929	.863
3. I am confident in my ability to write clear and coherent paragraphs.	47	3	1	4	1.94	1.009	1.018
4. I have a wide range of vocabulary that I can use accurately in my writing.	47	4	1	5	3.13	1.115	1.244
5. I use correct grammar and sentence structures in my writing.	47	4	1	5	3.34	.984	.969

Table 4. Descriptive Statistics of Students' Attitudes towards Learning Writing and four writing criteria before the Intervention

Descriptive Statistics							
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
6. I am familiar with using AI tools (like Bard) for writing assistance.	47	4	1	5	1.89	1.147	1.315
7. I find feedback essential for my learning and improvement in writing.	47	4	1	5	3.57	1.156	1.337
8. I have used AI-generated feedback for writing tasks before.	47	4	1	5	1.96	1.414	1.998
9. I am interested in using AI-generated feedback to improve my paragraph writing.	47	4	1	5	2.57	1.137	1.293
10. Receiving feedback on my writing helps me understand my mistakes better.	47	4	1	5	3.72	1.015	1.031

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Table 5. Descriptive Statistics of Students' Attitudes towards Learning Writing and four writing criteria after the Intervention

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
1. My paragraph writing skills have improved after receiving Bard-generated feedback.	47	3	2	5	3.91	.775	.601
2. Bard-generated feedback helped me understand my writing mistakes better.	47	4	1	5	3.66	.915	.838
3. The feedback provided by Bard was clear and easy to understand.	47	3	2	5	3.57	.878	.772
4. Using Bard made revising my paragraphs easier and more efficient.	47	4	1	5	3.47	1.080	1.167
5. I can now organize my ideas in a clear and logical order more effectively.	47	4	1	5	3.72	1.015	1.031
6. The vocabulary suggestions provided by Bard enhanced my writing quality.	47	3	2	5	4.19	.680	.463
7. My grammar and sentence structures have improved with Bard.	47	3	2	5	4.04	.751	.563
8. Bard-generated feedback increased my confidence in my writing skills.	47	4	1	5	3.74	.896	.803
9. I find it interesting and time-saving when using Bard-generated feedback.	47	3	2	5	4.19	.680	.463
10. I am now more confident in my ability to respond to a given writing task.	47	4	1	5	3.62	1.095	1.198

5. Teacher Observations

Teacher observations revealed a shift from initial reluctance to increased engagement. Students initially viewed writing as tedious but grew more motivated, with many exceeding task requirements due to Bard's tailored feedback. Regular attendance correlated with greater skill improvements, and students actively participated, particularly during revision. The teacher's scaffolding was critical, addressing struggles with complex feedback (e.g., sentence variety, transitions) through one-on-one support, mini-lessons, and peer reviews. For instance, when Bard suggested improving flow with linking words, the teacher demonstrated combining sentences, enhancing comprehension. Cases of overly advanced feedback were adjusted to suit students' A1–B1 proficiency levels, ensuring accessibility.

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6. Discussion and Summary

The 2023–2024 Hanoi study demonstrated that Bard-generated feedback significantly enhanced 47 grade 11 students' paragraph writing, particularly in lexical resource and grammatical range and accuracy, per IELTS criteria. Immediate, targeted feedback enabled vocabulary expansion and complex sentence use, supporting Skolverket's (2016) view on digital tools fostering self-directed learning. Compared to Lee's (2021) findings, Bard offered context-sensitive feedback, bridging gaps between automated and human feedback. Unlike Shintani et al.'s (2020) peer feedback, which aided content but not accuracy, Bard excelled in grammar corrections. Compared to Grammarly (Fitria, 2021), Bard prompted deeper grammatical revisions, though both boosted confidence. Jiang and Yu's (2022) AI grammar checkers align with Bard's impact, but Bard encouraged thoughtful revisions beyond surface fixes. Modest gains in task achievement and coherence suggest a need for additional instruction. Questionnaires revealed positive postintervention attitudes, with students valuing Bard's clarity, efficiency and vocabulary/grammar enhancements, increasing confidence and engagement. Data from pre-/post-tests, questionnaires, and teacher observations, analyzed via SPSS, tables, and thematic coding, confirmed Bard's efficacy in improving writing skills and motivation in EFL settings, though stylistic feedback limitations highlight the need for teacher support.

V. CONCLUSION

1. Recapitulation

The 2023–2024 Hanoi study with 47 grade 11 students showed Bard-generated feedback significantly improved paragraph writing, especially in lexical resource and grammatical accuracy per IELTS criteria. Students valued Bard's clear, immediate feedback, enhancing vocabulary, grammar, and confidence. Modest gains in task achievement and coherence suggest additional teacher support is needed for structural skills.

2. Limitations of the Study

The study faced constraints: a small sample (47 students) limited generalizability; an eight-week duration restricted long-term insights; and variable technology access (e.g., device availability, internet issues) affected consistency. Personal factors like health or exam stress impacted test results, and the researcher's limited expertise may have introduced methodological errors.

3. Implications of the Study

Teachers can integrate Bard to enhance vocabulary and grammar in writing, saving time while fostering autonomous learning. However, coherence and task response require teacher-led interventions like peer reviews. Curriculum designers should align tasks with AI strengths, ensuring teacher guidance complements Bard's feedback for comprehensive skill development.

4. Suggestions for Further Studies

Future research should extend study duration (e.g., a full academic year) for long-term impact assessment, use larger, diverse samples, and address technical challenges (e.g., in-class data collection). Strategies like sensitivity analyses can mitigate personal disruptions, enhancing understanding of Bard's effectiveness as a writing aid in EFL contexts.

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APPENDICES

Appendix 1a. Questionnaire 1 for Students before Classroom Action Research Students' questionnaire Guildelines

1. Put a checklist mark (√) on one of the answers you choose in the column below
2. Please fill in honestly according to the circumstances
3. The answer will not affect your English subject grade

	1 (strongly disagree)	2 (disagree)	3 (neutral)	4 (agree)	5 (strongly agree)
1. I enjoy writing paragraphs in English.					
2. I find it easy to organize my ideas when writing a paragraph.					
3. I am confident in my ability to write clear and coherent paragraphs.					

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4. I have a wide range of vocabulary that I can use accurately in my writing.					
5. I use correct grammar and sentence structures in my writing.					
6. I am familiar with using AI tools (like Bard) for writing assistance.					
7. I find feedback essential for my learning and improvement in writing.					
8. I have used AI-generated feedback for writing tasks before.					
9. I am interested in using AI-generated feedback to improve my paragraph writing.					
10. Receiving feedback on my writing helps me understand my mistakes better.					

Appendix 1b. Questionnaire 2 for Students after Classroom Action Research Students' questionnaire Guidelines

1. Put a checklist mark (✓) on one of the answers you choose in the column below
2. Please fill in honestly according to the circumstances
3. The answer will not affect your English subject grade

	1 (strongly disagree)	2 (disagree)	3 (neutral)	4 (agree)	5 (strongly agree)
1. My paragraph writing skills have improved after receiving Bard-generated feedback.					
2. Bard-generated feedback helped me understand my writing mistakes better.					
3. The feedback provided by Bard was clear and easy to understand.					
4. Using Bard made revising my paragraphs easier and more efficient.					
5. I can now organize my ideas in a clear and logical order more effectively.					

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6. The vocabulary suggestions provided by Bard enhanced my writing quality.					
7. My grammar and sentence structures have improved with Bard.					
8. Bard-generated feedback increased my confidence in my writing skills.					
9. I find it interesting and time-saving when using Bard-generated feedback.					
10. I am now more confident in my ability to respond to a given writing task.					

Write your answer to each question in the blank space

(You can use Vietnamese if you find it hard to express in English)

11. Do you find Bard-generated feedback helpful in improving your paragraph writing? In which terms do you find Bard most useful? Why?

☐ Task achievement

☐ Coherence and cohesion

☐ Lexical resource

☐ Grammatical range and accuracy

Write your answer to each question in the blank space.

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12. In which aspects can't Bard-generated feedback help you in paragraph writing?

Write your answer to each question in the blank space.

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13. What suggestions do you have for making activities of using Bard-generated feedback more engaging and effective?

Write your answer to each question in the blank space.

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14. What was your first impression of Bard tool and after a while using it? Would you recommend using Bard-generated feedback to other students?

Write your answer to each question in the blank space.

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