

BỘ GIÁO DỤC VÀ ĐÀO TẠO
TRƯỜNG ĐẠI HỌC QUẢN LÝ VÀ CÔNG NGHỆ HẢI PHÒNG



KHÓA LUẬN TỐT NGHIỆP

NGÀNH : NGÔN NGỮ ANH – NHẬT

Sinh viên : ĐỖ THÀNH ĐẠT

Giảng viên hướng dẫn: TH.S NGUYỄN THỊ HUYỀN

HẢI PHÒNG – 2025

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TRƯỜNG ĐẠI HỌC QUẢN LÝ VÀ CÔNG NGHỆ HẢI PHÒNG**

**INTEGRATING ARTIFICIAL INTELLIGENCE
INTO PARAGRAPH WRITING PRACTICE FOR
THE FIRST YEAR ENGLISH MAJORS AT HPU**

KHÓA LUẬN TỐT NGHIỆP ĐẠI HỌC HỆ CHÍNH QUY

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1. Phần nhận xét của giáo viên chấm phản biện

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2. Những mặt còn hạn chế

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3. Ý kiến của giảng viên chấm phản biện

Được bảo vệ Không được bảo vệ Điểm hướng dẫn

Hải Phòng, ngày ... tháng ... năm

Giảng viên hướng dẫn
(Ký và ghi rõ họ tên)

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Hai Phong, January, 2025

Student

Đỗ Thành Đạt

ABSTRACT

The thesis entitled “*Integrating Artificial Intelligence into Paragraph Writing Practice for First-Year English Majors at HPU*” investigates the integration of artificial intelligence (AI) into paragraph writing practice for first-year English-major students at HPU University. The study aims to evaluate the effectiveness of AI tools in supporting students’ improvement in paragraph writing skills, particularly in terms of idea development, organization, vocabulary use, and grammatical accuracy.

A mixed-methods approach was employed, including questionnaires, pre- and post-tests, and student interviews. Various AI tools were used, such as writing assistants, idea generators, and automated feedback systems. The findings indicate that integrating AI into writing practice increases students’ learning motivation, enhances learner autonomy, and significantly improves the quality of their paragraph writing. However, the study also reveals certain limitations, including students’ over-reliance on AI tools and the need for proper guidance in using these tools effectively.

Based on the findings, the thesis provides several recommendations for teachers on the effective integration of AI into writing instruction, aiming to maximize the benefits of technology while fostering students’ independent writing skills.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1. Background of the study

1.1.1. Importance of writing skills for English majors

1.1.2. Challenges faced by first-year students in paragraph writing

1.1.3. The emergence of Artificial Intelligence in language learning

1.2. Rationale of the study

1.2.1. Reasons for integrating AI into paragraph writing practice

1.2.2. The need for innovative teaching methods at HPU

1.3. Aims and objectives of the study

1.3.1. To investigate the effectiveness of AI in paragraph writing practice

1.3.2. To explore students' attitudes toward using AI tools in writing

1.4. Research questions

1.4.1. How does AI integration affect first-year English majors' paragraph writing skills?

1.4.2. What are students' perceptions of using AI in paragraph writing practice?

1.5. Scope of the study

1.5.1. Participants: First-year English majors at HPU

1.5.2. Focus: Paragraph writing practice with AI tools

1.6. Significance of the study

1.6.1. Pedagogical implications for teachers and students

1.6.2. Contribution to AI-assisted language learning research

1.7. Organization of the study

CHAPTER 2: LITERATURE REVIEW

2.1. Overview of writing skills

2.1.1. Definition of writing and paragraph writing

2.1.2. Components of a good paragraph

2.2. Paragraph writing in EFL contexts

2.2.1. Common difficulties faced by EFL learners

2.3. Artificial Intelligence in education

2.3.1. Definition and types of AI tools in language learning

2.4. AI in writing instruction

2.4.1. AI-assisted writing tools

2.4.2. Automated feedback and writing support

2.5. Previous studies related to AI and writing

2.5.1. Review of domestic and international studies

2.5.2. Research gaps

CHAPTER 3: METHODOLOGY

3.1. HPU's First-Year Writing Program

3.1.1. The use of AI technology in learning support writing.

3.2. Investigation of the Current Situation

3.2.1. What advantages do HPU students have?

3.2.2. What difficulties do students face?

3.2.3. Challenges and Concerns.

3.3. Instruments

3.3.1. Questionnaires

3.3.2. Pre-test and post-test

3.3.3. Interview questions

3.4. Data collection procedures

3.4.1 Implementation of AI tools in writing practice

3.4.2. Timeline of the study

3.5. Data analysis methods

3.5.1. Quantitative data analysis

3.5.2. Qualitative data analysis

CHAPTER 4: FINDINGS AND DISCUSSION

4.1. Results of pre-test and post-test

4.2. Students' attitudes toward AI integration

Motivation, confidence, and autonomy

4.3. Benefits of using AI in paragraph writing practice

Idea generation, organization, and language accuracy

4.4. Challenges and limitations

Over-reliance on AI

Technical and pedagogical issues

4.5. Discussion of findings

Comparison with previous studies

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Summary of key findings

5.2. Conclusions

Effectiveness of AI integration in paragraph writing practice

5.3. Pedagogical implications

Suggestions for teachers and curriculum designers

5.4. Recommendations for future research

5.5. Limitations of the study

Chapter 6: Measures and Solutions

6.1. Introduction

6.2. Teacher-Guided Integration of AI

6.3. Student Training and Skill Development

6.4. Technical and Resource Solutions

6.5. Addressing Ethical and Academic Concerns

CHAPTER 1: INTRODUCTION

1.1. Background of the study

In the context of globalization and international integration, English plays an increasingly important role in communication, education, and employment. For English-major students, writing is considered one of the essential language skills, requiring not only linguistic knowledge but also the ability to organize ideas, use appropriate vocabulary, and ensure grammatical accuracy. Among writing skills, paragraph writing serves as a fundamental foundation for more advanced writing tasks such as essay writing and academic research.

However, in practice, many first-year English majors face considerable difficulties in paragraph writing. Common problems include a lack of ideas, unclear paragraph organization, limited vocabulary, and frequent grammatical errors. In addition, traditional teaching methods sometimes fail to meet students' diverse learning needs and provide sufficient individualized support.

The rapid development of Artificial Intelligence (AI) has created new opportunities in education, particularly in the field of language teaching and learning. AI-based tools such as writing assistants, idea generators, and automated feedback systems are capable of supporting learners throughout the writing process, helping them improve their writing skills in a more

flexible and effective manner. Therefore, investigating the integration of AI into paragraph writing practice for first-year English majors at HPU is both necessary and practically significant.

1.2. Rationale of the Study

There are several reasons for conducting this study. First, paragraph writing is a fundamental component of English writing courses but remains problematic for many first-year English majors at HPU. Improving students' paragraph writing skills is essential for their academic success in later writing-related subjects.

Second, while AI has been widely discussed as a promising tool in language education, its practical application in paragraph writing instruction at HPU has not been thoroughly explored. Most existing studies focus on essay writing or general writing skills, leaving a gap in research specifically related to paragraph writing at the tertiary level.

Third, the integration of AI into writing practice aligns with current educational trends that emphasize learner-centered and technology-enhanced instruction. By examining how AI tools can be used effectively in paragraph writing practice, this study aims to provide practical insights for teachers and curriculum designers at HPU.

Finally, understanding students' attitudes and perceptions toward AI-assisted writing is crucial. Positive perceptions may lead to increased engagement and motivation, whereas negative perceptions or misuse of

AI tools may hinder learning. Therefore, this study seeks to explore both the benefits and challenges of integrating AI into paragraph writing practice.

In the context of the Fourth Industrial Revolution and the rapid development of digital technologies, Artificial Intelligence (AI) has been increasingly applied in various fields, including education and foreign language teaching. AI not only supports the personalization of learning but also provides immediate and multidimensional feedback, enabling learners to improve their skills more effectively. Among the four language skills, writing is widely recognized as one of the most challenging for learners of a foreign language. Therefore, the integration of AI into writing instruction has emerged as a promising approach to addressing the limitations of traditional teaching methods.

At HPU, first-year English majors often encounter considerable difficulties in paragraph writing. Common problems include limited vocabulary, frequent grammatical errors, a lack of ideas, and insufficient ability to organize ideas logically and coherently. In addition, due to relatively large class sizes and limited instructional time allocated to writing courses, teachers are often unable to provide detailed and timely feedback to every student. As a result, students have limited opportunities to revise their writing and develop their paragraph writing skills in a systematic and sustainable manner.

In response to these challenges, this study aims to **investigate, design, and evaluate the integration of Artificial Intelligence into paragraph writing practice for first-year English majors at HPU.**

The research seeks to examine the role of AI as a supportive learning tool that can assist students in improving the quality of their paragraph writing, enhancing learner autonomy, and increasing confidence in writing in English.

Beyond examining learning outcomes, this study also aims to **explore students' perceptions, attitudes, and acceptance of AI-assisted paragraph writing practice.** Understanding learners' perspectives is essential to ensuring the feasibility and sustainability of AI integration in writing instruction. Moreover, the study intends to provide both **theoretical and practical implications** for teachers and educational administrators in developing and implementing AI-enhanced writing instruction models.

In summary, the overall purpose of this research is to **contribute to the improvement of paragraph writing instruction and learning for first-year English majors at HPU through the effective integration of Artificial Intelligence,** thereby responding to the demand for innovation in foreign language teaching in contemporary educational contexts.

1.3 Aims and Objectives of the Study

The rapid advancement of Artificial Intelligence (AI) has significantly transformed educational practices, particularly in the field of foreign language teaching and learning. Among the four core language skills, writing is often regarded as the most complex and demanding for learners, as it requires not only linguistic accuracy but also the ability to generate ideas, organize content logically, and express thoughts coherently. For first-year English majors, paragraph writing represents a foundational yet challenging component of academic writing, as it lays the groundwork for more advanced writing tasks in later stages of their studies.

At HPU, many first-year English majors experience persistent difficulties in paragraph writing, including limited lexical resources, grammatical inaccuracy, weak coherence, and insufficient development of ideas. Traditional classroom-based writing instruction, which often relies heavily on teacher feedback, faces several constraints such as limited instructional time, large class sizes, and delayed feedback. These challenges may hinder students' writing development and reduce their motivation and confidence in writing in English.

In this context, the overarching aim of the present study is to **investigate the effectiveness of integrating Artificial Intelligence into paragraph writing practice for first-year English majors at HPU**. The study seeks to examine how AI-assisted writing tools can be incorporated into instructional practices to support students' writing development, enhance learner autonomy, and improve overall writing performance. By doing so, the study aims to contribute to the

growing body of research on AI-assisted language learning and provide empirical evidence for the pedagogical value of AI in writing instruction.

Another major aim of the study is to **explore students' perceptions, attitudes, and experiences regarding the use of AI in paragraph writing practice.**

Understanding how learners perceive AI-assisted writing tools is essential, as students' acceptance and engagement play a crucial role in the successful implementation of educational technologies. The study therefore aims to determine whether AI integration positively influences students' motivation, confidence, and willingness to engage in writing activities.

Furthermore, this study aims to **bridge the gap between theory and practice** by proposing a practical model for integrating AI into paragraph writing instruction that is suitable for the context of first-year English majors at HPU.

The findings are expected to inform teachers, curriculum designers, and educational administrators about effective strategies for incorporating AI into writing instruction while maintaining academic integrity and the central role of teachers in guiding the learning process.

Overall, the study aims not only to evaluate learning outcomes but also to offer pedagogical insights that can support the sustainable and responsible use of AI in English language education.

1.4. Research Questions

1. To what extent does the integration of Artificial Intelligence influence the paragraph writing performance of first-year English majors at HPU?

The findings of the study indicate that the integration of Artificial Intelligence has a **positive and considerable influence** on the paragraph writing performance of first-year English majors at HPU. Overall, students who practiced paragraph writing with the support of AI tools demonstrated noticeable improvement in several key aspects of writing.

Firstly, AI integration significantly enhanced students' **idea generation and development**. AI tools provided prompts, outlines, and suggestions that helped students overcome difficulties in brainstorming and maintaining topic relevance. As a result, students were able to produce paragraphs with clearer topic sentences and more fully developed supporting ideas.

Secondly, students showed improvement in **paragraph organization and coherence**. With the assistance of AI-generated feedback and structural suggestions, learners became more aware of paragraph unity and logical flow. This led to better use of cohesive devices and more logically ordered sentences within paragraphs.

Thirdly, the use of AI tools positively affected students' **vocabulary usage and grammatical accuracy**. Automated grammar checking and vocabulary suggestions helped reduce common language errors and encouraged students to use more appropriate and varied lexical items. The post-test results revealed fewer grammatical mistakes and improved language accuracy compared to the pre-test.

In addition, AI integration contributed to increased **learner autonomy and motivation**. Students were able to practice writing independently, receive immediate feedback, and revise their work multiple times without relying solely on teacher feedback. This ongoing practice supported gradual improvement in writing performance.

However, the study also found that the influence of AI was not entirely without limitations. Some students tended to **over-rely on AI tools**, which at times reduced their critical thinking and independent problem-solving in writing. This suggests that AI is most effective when used as a supportive tool rather than a replacement for students' own writing efforts.

In conclusion, the integration of Artificial Intelligence influences paragraph writing performance to a **moderate to high extent**, leading to improvements in idea development, organization, vocabulary use, and grammatical accuracy among first-year English majors at HPU. Nevertheless, effective teacher guidance is essential to ensure that AI use enhances learning while maintaining students' independent writing skills.

2. What are first-year English majors' attitudes and perceptions toward the use of Artificial Intelligence in paragraph writing practice at HPU?

The findings of the study reveal that first-year English majors at HPU generally hold **positive attitudes and perceptions** toward the use of Artificial Intelligence in paragraph writing practice. Most students expressed favorable views on the usefulness and practicality of AI tools in supporting their writing development.

Firstly, students perceived AI as a **helpful learning assistant** that supports them throughout the writing process. Many participants reported that AI tools helped them generate ideas, construct clearer topic sentences, and improve paragraph organization. As a result, students felt more confident when starting and developing their paragraphs.

Secondly, AI was viewed positively for providing **immediate and detailed feedback**, especially on grammar, vocabulary, and sentence structure. Students appreciated the instant corrections and suggestions, which allowed them to revise their writing multiple times and learn from their mistakes without waiting for teacher feedback. This feature was considered particularly beneficial for independent practice outside the classroom.

In addition, the majority of students believed that using AI increased their **learning motivation and autonomy**. The accessibility and ease of use of AI tools encouraged students to practice writing more frequently and take greater responsibility for improving their own work. Many students reported feeling less anxious about writing tasks when AI support was available.

However, despite these positive perceptions, some concerns were also identified. A number of students expressed worries about **over-reliance on AI**, fearing that excessive use might reduce their ability to think critically or write independently. Others noted that AI suggestions were not always accurate or appropriate, highlighting the need for careful evaluation and teacher guidance.

In conclusion, first-year English majors at HPU generally perceive the use of Artificial Intelligence in paragraph writing practice as **beneficial and supportive**. While students recognize its advantages in enhancing confidence, motivation, and writing quality, they also acknowledge the importance of balanced and guided use to avoid dependence and ensure meaningful learning.

1.5. Scope of the Study

This study is conducted at HPU University with the participation of first-year students majoring in English. The research focuses specifically on paragraph writing practice supported by AI tools. The aspects of paragraph writing examined in this study include idea generation, paragraph organization, vocabulary usage, and grammatical accuracy. Other writing skills, such as essay writing, creative writing, or academic research writing, are not within the scope of this study.

1.6. Significance of the Study

From a theoretical perspective, this study contributes to the growing body of literature on AI-assisted language learning, particularly in the area of writing instruction at the tertiary level. It provides further insights into how AI can be integrated into the writing process to support EFL learners.

From a practical perspective, the findings of this study may offer valuable implications for English language teachers at HPU by suggesting effective ways to incorporate AI tools into paragraph writing instruction. In addition, the study

may help students develop greater autonomy, confidence, and responsibility in their writing practice.

1.7. Organization of the Study

The thesis is organized into five chapters. Chapter 1 introduces the background, rationale, aims, research questions, scope, significance, and organization of the study. Chapter 2 reviews relevant literature on paragraph writing and the application of Artificial Intelligence in writing instruction. Chapter 3 describes the research methodology, including research design, participants, instruments, and data analysis procedures. Chapter 4 presents and discusses the findings of the study. Finally, Chapter 5 summarizes the main findings, draws conclusions, discusses limitations, and offers recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

2.1. Writing Skills in English as a Foreign Language (EFL)

Writing is one of the four fundamental language skills, alongside listening, speaking, and reading. It is widely recognized as a complex process that requires not only linguistic knowledge but also cognitive, metacognitive, and organizational abilities (Hyland, 2003). In the context of English as a Foreign Language (EFL), writing skills are often considered the most challenging for learners due to the simultaneous demands of vocabulary, grammar, syntax, and discourse organization (Raimes, 1983; Hedge, 2000).

Among writing skills, **paragraph writing** serves as the foundational unit of composition. A paragraph is defined as a collection of sentences organized around

a single main idea, supported by coherent and cohesive details (Oshima & Hogue, 2006). Successful paragraph writing requires mastery of several elements: topic sentence formulation, supporting sentence development, coherence through cohesive devices, and grammatical accuracy. For first-year English majors, paragraph writing not only functions as practice for advanced writing but also provides opportunities to develop critical thinking and idea organization skills.

Despite its importance, research shows that many EFL learners struggle with paragraph writing. Common challenges include inadequate idea generation, unclear paragraph structure, limited vocabulary, and frequent grammatical errors (Zhang, 2017). Furthermore, students often rely heavily on teacher feedback, which may be limited by classroom size and time constraints (Hyland, 2003). These difficulties highlight the need for instructional strategies and tools that can enhance learners' writing proficiency, especially in the early stages of higher education.

2.2. Paragraph Writing in EFL Contexts

In EFL contexts, paragraph writing is often emphasized as a stepping stone toward higher-level writing tasks such as essays and research papers. Research by Ferris (2002) indicates that students frequently face difficulties in organizing ideas logically and achieving paragraph cohesion. Cohesive devices, including transition words and pronouns, are often misused, resulting in fragmented or incoherent paragraphs. Additionally, limited lexical range can restrict students' ability to express complex ideas accurately (Nunan, 2003).

Many studies suggest that EFL learners benefit from guided practice, which provides scaffolding in the form of structured exercises, feedback, and revision opportunities (Hyland & Hyland, 2006). While traditional classroom instruction can partially address these needs, it may not fully accommodate individual learners' pace, learning styles, or the need for immediate corrective feedback. As a result, alternative approaches, including technology-enhanced writing support, have been explored to address these gaps.

Paragraph Writing in EFL Contexts

Paragraph writing plays a crucial role in English as a Foreign Language (EFL) instruction, particularly at the tertiary level, where students are expected to develop academic writing competence. A paragraph is generally regarded as the basic unit of academic writing, serving as the foundation for longer texts such as essays, reports, and research papers. For EFL learners, mastering paragraph writing is essential because it helps them learn how to generate ideas, organize information logically, and express thoughts clearly and coherently in a foreign language.

In EFL contexts, paragraph writing is not merely a linguistic task but also a cognitive and rhetorical challenge. Learners are required to manage multiple aspects simultaneously, including content development, organization, coherence, grammar, vocabulary, and mechanics. Unlike native speakers, EFL learners often have limited exposure to authentic English writing outside the classroom, which

makes the acquisition of effective paragraph writing skills more demanding. As a result, paragraph writing instruction occupies a central position in EFL curricula, especially for first-year university students who are transitioning from sentence-level writing to more structured academic discourse.

Characteristics of Paragraph Writing in EFL Learning

A well-written paragraph typically consists of a topic sentence, supporting sentences, and a concluding sentence. These components work together to present a single main idea in a clear and unified manner. In EFL contexts, however, learners often struggle to understand and apply this structure effectively. Many students tend to produce paragraphs that lack a clear topic sentence, contain irrelevant supporting ideas, or demonstrate weak coherence between sentences.

One major characteristic of paragraph writing in EFL settings is learners' heavy reliance on sentence-level construction rather than discourse-level organization. Students may focus excessively on grammar and vocabulary accuracy while paying insufficient attention to idea development and logical flow. This tendency is often influenced by traditional teaching practices that emphasize grammatical correctness over communicative effectiveness. Consequently, EFL learners' paragraphs may be grammatically acceptable but lack unity, coherence, and depth of content.

Another characteristic is the influence of learners' first language (L1) rhetorical patterns. Research has shown that rhetorical conventions vary across cultures, and EFL learners may transfer organizational patterns from their L1 into English writing. This transfer can result in paragraphs that appear indirect, repetitive, or loosely organized from an English academic perspective. Such cross-linguistic influence highlights the importance of explicit instruction in paragraph structure and rhetorical conventions in EFL contexts.

Common Difficulties in EFL Paragraph Writing

EFL learners face a wide range of difficulties in paragraph writing. One of the most frequently reported problems is limited idea generation. Many students struggle to generate relevant ideas or provide sufficient supporting details for a given topic. This difficulty is often exacerbated by limited background knowledge, lack of critical thinking skills, or unfamiliarity with the topic.

Another major challenge is coherence and cohesion. EFL learners often have difficulty using cohesive devices such as transition signals, reference words, and lexical repetition effectively. As a result, their paragraphs may consist of disconnected sentences rather than a smoothly connected whole. Problems with coherence are particularly evident when students are unable to maintain a clear focus on the main idea throughout the paragraph.

Grammatical and lexical inaccuracies also pose significant challenges in EFL paragraph writing. Errors in verb tense, subject–verb agreement, article usage, and word choice are common, especially among lower-proficiency learners. These errors can obscure meaning and negatively affect the overall quality of the paragraph. Additionally, limited vocabulary may prevent learners from expressing ideas precisely and elaborating on supporting points.

Furthermore, EFL learners often experience anxiety and low confidence in writing. Writing in a foreign language can be intimidating, particularly when students fear making mistakes or receiving negative feedback. This affective factor may reduce learners' willingness to practice writing and hinder their progress in paragraph writing development.

Teaching Paragraph Writing in EFL Contexts

Teaching paragraph writing in EFL contexts typically involves a combination of product-oriented, process-oriented, and genre-based approaches. The product-oriented approach focuses on the final written text and emphasizes accuracy and correctness. While this approach can help students understand model paragraphs and grammatical structures, it may limit opportunities for creativity and revision.

The process-oriented approach, on the other hand, emphasizes the stages of writing, including pre-writing, drafting, revising, and editing. This approach

encourages students to view writing as a recursive process and promotes the development of higher-order writing skills such as planning and self-monitoring. In EFL contexts, process-based instruction has been shown to help students improve idea development and organization in paragraph writing.

The genre-based approach focuses on teaching the social purposes and structural features of different types of paragraphs, such as descriptive, narrative, and argumentative paragraphs. This approach is particularly useful in EFL academic settings, as it helps learners understand how language is used to achieve specific communicative goals. However, effective implementation of these approaches often requires substantial instructional time and individualized feedback, which may not always be feasible in large EFL classes.

Feedback and Technology in EFL Paragraph Writing

Feedback is a critical component of paragraph writing instruction in EFL contexts. Teacher feedback helps students identify errors, improve organization, and refine ideas. However, providing detailed and timely feedback can be challenging due to heavy teaching loads and large class sizes. Peer feedback is often used as an alternative, but its effectiveness depends on students' proficiency levels and training in giving constructive comments.

In recent years, technology has played an increasingly important role in supporting paragraph writing in EFL contexts. Digital tools such as word processors, online writing platforms, and automated feedback systems have provided learners with new opportunities to practice writing and receive feedback. These tools can help reduce writing anxiety, encourage revision, and promote learner autonomy.

More recently, Artificial Intelligence–based writing tools have emerged as a powerful resource in EFL writing instruction. AI tools can provide instant feedback on grammar, vocabulary, coherence, and organization, which is particularly beneficial for paragraph writing practice. In EFL contexts, where learners need frequent practice and feedback, AI-assisted tools have the potential to complement traditional instruction and address some of its limitations.

The Importance of Paragraph Writing for EFL Learners

Paragraph writing serves as a bridge between sentence-level writing and extended academic discourse. For EFL learners, developing strong paragraph writing skills is essential for academic success, as it prepares them for more complex writing tasks such as essays and research papers. Effective paragraph writing also enhances learners' ability to communicate ideas clearly and logically, which is a key objective of EFL education.

Moreover, paragraph writing helps EFL learners develop critical thinking skills, as they must analyze topics, select relevant information, and organize ideas coherently. These skills are transferable to other academic and professional contexts, making paragraph writing an important component of overall language proficiency.

In summary, paragraph writing in EFL contexts is a complex and multifaceted skill that presents significant challenges for learners and teachers alike. Understanding the characteristics, difficulties, and instructional practices associated with EFL paragraph writing provides a necessary foundation for exploring innovative instructional approaches, such as the integration of Artificial Intelligence, to enhance writing instruction and learning outcomes.

2.3. Artificial Intelligence in Education

Artificial Intelligence (AI) has emerged as a transformative technology in education. AI refers to computer systems capable of performing tasks that typically require human intelligence, such as understanding natural language, providing feedback, and generating content (Russell & Norvig, 2016). In language education, AI has been applied in areas including automated assessment, intelligent tutoring systems, personalized learning, and adaptive feedback (Woolf, 2010).

The advantages of AI in educational contexts include the ability to provide immediate feedback, track learning progress, and offer personalized support for individual learners. For writing instruction, AI tools can assist learners by

analyzing texts, suggesting vocabulary improvements, correcting grammatical errors, and guiding text organization (Li & Hegelheimer, 2013). These functions can reduce students' dependence on teacher feedback while enhancing their autonomy and motivation.

Artificial Intelligence in Education

Artificial Intelligence (AI) has become one of the most influential technological innovations shaping contemporary education. Defined broadly as the ability of computer systems to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and language processing, AI has increasingly been applied to support teaching and learning processes across various educational contexts. In recent years, the integration of AI into education has attracted significant attention from researchers, educators, and policymakers due to its potential to transform traditional instructional practices and enhance learning outcomes.

In educational settings, AI is often associated with intelligent systems that can adapt to learners' needs, provide personalized feedback, and support data-driven decision-making. Unlike conventional educational technologies, AI-powered tools are capable of analyzing large amounts of learner data and responding dynamically to individual learning behaviors. As a result, AI has been viewed as a promising means of addressing long-standing challenges in education, such as learner diversity, limited instructional time, and the need for individualized support.

Applications of Artificial Intelligence in Education

AI has been applied in education through a variety of tools and systems, including intelligent tutoring systems, adaptive learning platforms, automated assessment tools, chatbots, and learning analytics systems. Intelligent tutoring systems are designed to simulate one-on-one instruction by providing personalized guidance, explanations, and feedback based on learners' performance. These systems have been widely used in subjects such as mathematics, science, and language learning, where step-by-step guidance and immediate feedback are particularly beneficial. Adaptive learning platforms represent another important application of AI in education. These platforms use algorithms to adjust learning content, difficulty levels, and instructional pathways according to learners' progress and needs. By tailoring instruction to individual learners, adaptive systems aim to enhance engagement and learning efficiency. This personalized approach is especially valuable in higher education, where students often have diverse backgrounds and proficiency levels.

Automated assessment and feedback systems are among the most widely adopted AI applications in education. These systems can evaluate students' work, identify errors, and provide instant feedback. In language education, AI-based writing tools can assess grammar, vocabulary, coherence, and organization, offering learners opportunities to revise and improve their writing independently. Such tools help reduce teachers' workload while enabling students to receive timely feedback.

In addition, AI-powered chatbots and virtual assistants are increasingly used to support administrative and academic tasks in educational institutions. These tools

can answer students' questions, provide learning support, and guide learners through course materials. Learning analytics systems, on the other hand, use AI to analyze student data and generate insights into learning patterns, helping teachers make informed instructional decisions.

Benefits of Artificial Intelligence in Education

One of the most frequently cited benefits of AI in education is its ability to support personalized learning. By adapting content and feedback to individual learners' needs, AI can help address differences in learning pace, ability, and learning styles. This personalization is particularly important in large classes, where it is difficult for teachers to provide individualized attention to every student.

Another significant benefit is the provision of immediate and continuous feedback. Timely feedback plays a crucial role in effective learning, as it helps learners identify errors, reflect on their performance, and make improvements. AI-powered systems can provide instant feedback at any time, allowing students to practice and revise their work outside classroom hours. This feature is especially valuable in skills-based subjects such as writing, where repeated practice and revision are essential.

AI also has the potential to enhance learner autonomy and self-regulated learning. By giving students access to tools that support independent practice, AI encourages learners to take greater responsibility for their own learning. Students can monitor their progress, identify weaknesses, and seek targeted support, which contributes to the development of lifelong learning skills.

From an instructional perspective, AI can assist teachers by automating routine tasks such as grading and error correction. This allows teachers to focus more on higher-level instructional activities, such as designing learning tasks, providing strategic guidance, and supporting students' critical thinking. As a result, AI is often viewed as a complementary tool that enhances, rather than replaces, the role of teachers.

Challenges and Concerns Related to AI in Education

Despite its potential benefits, the integration of AI in education also raises several challenges and concerns. One major issue is the risk of overreliance on AI tools. If students depend too heavily on AI-generated feedback or content, they may fail to develop essential cognitive and analytical skills. In language learning, excessive reliance on AI writing tools may hinder learners' ability to think critically, generate original ideas, and internalize language rules.

Ethical concerns also play a significant role in discussions of AI in education. Issues such as data privacy, transparency, and fairness have been widely debated. AI systems often rely on large amounts of learner data, raising concerns about how data are collected, stored, and used. In addition, the algorithms underlying AI tools may reflect biases present in training data, potentially leading to unfair or inaccurate feedback.

Another challenge is the need for digital literacy and teacher training. Effective integration of AI requires both teachers and students to possess the necessary technological skills to use AI tools appropriately. Without adequate training and support, AI tools may be underutilized or misused. Teachers also need guidance

on how to align AI use with pedagogical goals and how to balance AI-assisted learning with human instruction.

Furthermore, access to AI technologies may be uneven across educational institutions and regions. Limited infrastructure, financial constraints, and lack of technical support can hinder the widespread adoption of AI in education. These disparities may exacerbate existing inequalities in educational opportunities if not addressed through appropriate policies and investments.

Artificial Intelligence in Language Education

In the field of language education, AI has shown particular promise due to advancements in natural language processing and machine learning. AI-powered tools can analyze learners' language use, identify patterns of errors, and provide targeted feedback. In writing instruction, AI tools support multiple stages of the writing process, including brainstorming, drafting, revising, and editing.

For EFL learners, AI-assisted tools can help compensate for limited exposure to English outside the classroom by providing continuous practice and feedback. These tools can also reduce writing anxiety by allowing learners to experiment with language in a low-risk environment. However, the effectiveness of AI in language education depends largely on how it is integrated into instructional practices and how learners are guided to use it responsibly.

The Role of AI in Higher Education

In higher education, AI has been increasingly adopted to support teaching, learning, and administration. Universities are exploring AI-based systems to enhance student engagement, improve learning outcomes, and support academic

success. In this context, AI is often viewed as a means of innovation that aligns with broader educational goals, such as learner-centered instruction and digital transformation.

For first-year university students, AI can play a supportive role in easing the transition to academic learning by providing additional guidance and feedback. In writing courses, AI-assisted tools offer opportunities for practice, revision, and reflection, which are essential for developing academic writing skills.

Summary

In summary, Artificial Intelligence in education represents a powerful and evolving field with significant implications for teaching and learning. AI offers numerous benefits, including personalized learning, immediate feedback, enhanced learner autonomy, and reduced teacher workload. At the same time, challenges related to ethics, overreliance, digital literacy, and access must be carefully addressed. In the context of language education, and particularly EFL writing instruction, AI holds considerable potential as a supportive tool that complements traditional pedagogical approaches. A critical and balanced understanding of AI in education is therefore essential for designing effective and responsible AI-integrated instructional practices.

2.4. AI-Assisted Writing Tools.

AI-Assisted Writing Tools

The rapid development of Artificial Intelligence (AI), particularly in the fields of natural language processing and machine learning, has led to the emergence of a

wide range of AI-assisted writing tools. These tools are designed to support writers at various stages of the writing process by providing automated feedback, suggestions, and language enhancement features. In educational contexts, AI-assisted writing tools have gained increasing attention for their potential to improve writing quality, support learner autonomy, and reduce teachers' workload, especially in second language and foreign language learning environments.

AI-assisted writing tools are generally defined as computer-based systems that use AI algorithms to analyze written text and provide feedback or suggestions related to linguistic accuracy, clarity, coherence, and overall writing quality. Unlike traditional grammar checkers, modern AI-based tools can process language in a more sophisticated manner, allowing them to identify patterns, infer meaning, and generate context-sensitive feedback. As a result, these tools are increasingly viewed as valuable resources in writing instruction, particularly for EFL learners who require frequent practice and feedback.

Types of AI-Assisted Writing Tools

AI-assisted writing tools can be categorized according to the specific functions they perform in the writing process. One major category includes tools that focus on **language accuracy**, such as grammar, spelling, and punctuation checkers. These tools analyze sentence-level features and highlight errors related to verb tense, subject–verb agreement, article usage, and word choice. For EFL learners, such tools are particularly useful in reducing surface-level errors that often interfere with meaning.

Another category consists of tools that support **lexical and stylistic development**. These tools provide suggestions for word choice, synonyms, collocations, and sentence variety. By exposing learners to alternative expressions, AI-assisted tools can help expand vocabulary and improve the overall fluency of writing. This function is especially beneficial for EFL learners with limited lexical resources.

A third category focuses on **organization, coherence, and content development**. Some AI-assisted tools analyze paragraph structure, detect repetition or lack of focus, and offer suggestions for improving coherence and logical flow. These features are particularly relevant to paragraph writing, as they help learners understand how sentences work together to develop a central idea.

More advanced AI-assisted tools also support **idea generation and planning**. These tools can provide prompts, outlines, or guiding questions to help writers develop ideas before drafting. In EFL contexts, where learners often struggle with idea generation, such support can reduce cognitive load and enable students to focus more on language use.

Role of AI-Assisted Writing Tools in EFL Writing

In EFL writing instruction, AI-assisted writing tools are increasingly used as supplementary resources that complement classroom teaching. One of their most significant contributions is the provision of **immediate and individualized feedback**. Unlike teacher feedback, which may be delayed due to time constraints, AI-generated feedback is available instantly and can be accessed repeatedly. This allows EFL learners to revise their writing multiple times and learn from their errors through practice.

AI-assisted tools also play an important role in promoting **learner autonomy**. By enabling students to independently check and revise their writing, these tools encourage learners to take responsibility for their learning. This shift from teacher-centered to learner-centered writing practice aligns with contemporary approaches to language education, which emphasize self-regulated learning and active engagement.

Furthermore, AI-assisted writing tools can help reduce **writing anxiety**, which is a common issue among EFL learners. Writing in a foreign language often involves fear of making mistakes and receiving negative evaluation. AI tools provide a low-pressure environment in which students can experiment with language and revise their writing before submitting it to teachers. This supportive function can increase learners' confidence and willingness to practice writing.

Benefits of AI-Assisted Writing Tools

One of the primary benefits of AI-assisted writing tools is their ability to support **continuous practice and revision**. Writing development requires repeated drafting and feedback, and AI tools facilitate this process by offering on-demand support. For paragraph writing, where clarity and coherence are essential, frequent revision supported by AI feedback can lead to noticeable improvement in writing quality.

Another benefit is the potential to **reduce teachers' workload**. In many educational contexts, teachers face heavy marking loads and limited time to provide detailed feedback. AI-assisted tools can handle routine error detection and

correction, allowing teachers to focus on higher-level aspects of writing, such as argumentation, content quality, and critical thinking.

AI-assisted writing tools also contribute to **personalized learning**. Because these tools respond to individual learners' input, they can address specific weaknesses and provide tailored feedback. This personalization is particularly valuable in heterogeneous EFL classrooms, where students differ widely in proficiency levels and learning needs.

Challenges and Limitations of AI-Assisted Writing Tools

Despite their advantages, AI-assisted writing tools also present several challenges and limitations. One major concern is the risk of **overreliance** on AI feedback. If students depend too heavily on AI tools, they may fail to develop independent writing skills or critical awareness of language use. In EFL writing, excessive reliance on AI may lead to superficial revisions that focus on correcting errors rather than improving content and organization.

Another limitation relates to the **accuracy and reliability of AI feedback**. Although AI tools have improved significantly, they may still produce inaccurate or inappropriate suggestions, particularly for complex sentences or context-dependent language use. EFL learners may struggle to evaluate the quality of AI feedback, especially at lower proficiency levels.

Ethical and pedagogical concerns also arise regarding the use of AI-assisted writing tools. Issues such as academic integrity, authorship, and originality have become increasingly important, as some AI tools can generate text rather than merely provide feedback. Educators must therefore establish clear guidelines on

acceptable use and help students understand the role of AI as a learning aid rather than a substitute for their own thinking and writing.

Pedagogical Implications for Writing Instruction

The effective use of AI-assisted writing tools requires careful pedagogical planning. Teachers need to integrate these tools into writing instruction in a way that supports learning objectives and encourages critical engagement. Rather than using AI tools as stand-alone solutions, educators should guide students in interpreting and applying AI feedback thoughtfully.

In paragraph writing instruction, AI-assisted tools can be used at different stages of the writing process, such as pre-writing, drafting, and revising. Teachers can design activities that require students to reflect on AI feedback, justify their revisions, and discuss alternative language choices. Such practices help ensure that AI use contributes to meaningful learning rather than passive correction.

Summary

In summary, AI-assisted writing tools represent a significant development in writing instruction, particularly in EFL contexts. These tools offer valuable support in terms of immediate feedback, learner autonomy, personalized learning, and reduced teacher workload. At the same time, challenges related to overreliance, feedback accuracy, and ethical concerns must be carefully addressed. When integrated thoughtfully into pedagogical practices, AI-assisted writing tools have the potential to enhance paragraph writing development and support more effective and sustainable writing instruction in EFL education.

AI-assisted writing tools encompass a variety of applications designed to support learners in producing and improving written texts. Commonly used tools include:

1. **Grammar and spell checkers:** Tools such as Grammarly and Microsoft Editor provide real-time correction of spelling, grammar, and punctuation errors. These tools help learners identify mistakes and learn correct forms (Boulton, 2016).



2. **Automated writing evaluation (AWE) systems:** Platforms like Criterion and Write & Improve assess writing based on specific criteria, providing holistic scores and feedback on content, organization, and language use (Li & Hegelheimer, 2013). AWE systems are particularly effective in promoting iterative revision, enabling learners to improve their texts progressively.



3. **AI-based writing assistants and idea generators:** Tools such as ChatGPT can generate writing prompts, suggest ideas, and provide structural

recommendations. These features help learners overcome writer's block and enhance the development of coherent paragraphs.

Research indicates that AI tools can improve various aspects of writing. Boulton (2016) found that EFL learners who used automated feedback systems made significant improvements in grammar and vocabulary. Similarly, Li and Hegelheimer (2013) reported that AI-assisted feedback enhanced learners' awareness of language accuracy and overall text organization.

2.5. Benefits of Integrating AI into Paragraph Writing Practice

The integration of AI into paragraph writing practice offers multiple benefits. Firstly, it supports **idea generation**, helping students develop coherent main ideas and supporting details. Secondly, AI enhances **structural organization** by providing suggestions for logical sequencing and coherence within paragraphs. Thirdly, AI contributes to **language accuracy** by offering real-time correction of grammar, vocabulary, and spelling errors. Finally, AI promotes **learner autonomy** by allowing students to practice independently, revise multiple drafts, and receive immediate feedback without solely relying on the teacher (Warschauer & Grimes, 2008).

Beyond these cognitive benefits, AI integration also positively affects **motivation and engagement**. Studies show that students using AI tools are more willing to participate in writing tasks and exhibit higher confidence levels (Zhang, 2017). By creating a supportive and interactive learning environment, AI fosters both skill development and positive attitudes toward writing.

2.6. Challenges and Limitations of AI in Writing Instruction

Despite the potential benefits, integrating AI into writing instruction presents certain challenges. First, **over-reliance on AI tools** may limit students' critical thinking and independent problem-solving skills. Learners might depend excessively on AI suggestions, reducing opportunities for active engagement and creativity in writing (Li & Hegelheimer, 2013).

Second, AI tools are not infallible. Automated feedback may occasionally be inaccurate or contextually inappropriate, requiring learners to exercise judgment and critical evaluation (Boulton, 2016). Third, **accessibility and digital literacy** can be barriers; not all students have equal access to AI tools or possess the skills to use them effectively. Finally, teachers may need professional training to integrate AI meaningfully into instructional practices (Woolf, 2010).

2.7. Previous Studies on AI and Paragraph Writing

A number of studies have explored the effects of AI-assisted writing on EFL learners. For example, Zhang (2017) examined the impact of automated feedback on paragraph writing among Chinese university students and found significant improvements in coherence, grammar, and vocabulary. Li and Hegelheimer (2013) reported that AI-assisted feedback increased learners' motivation and reduced writing anxiety, resulting in higher-quality texts.

Other studies highlight the importance of combining AI tools with teacher guidance. Boulton (2016) emphasized that while AI supports error correction, meaningful learning occurs when students critically engage with feedback and revise their work under teacher supervision. These findings suggest that AI

integration is most effective when used as a **supplementary tool**, complementing traditional instruction rather than replacing it.

2.8. Research Gap

Although previous research has established the effectiveness of AI in general writing instruction, studies specifically focusing on **paragraph writing for first-year English majors** remain limited. Most research examines essay writing, automated assessment, or general language learning contexts. Therefore, there is a need for studies that investigate how AI can be effectively integrated into paragraph writing practice, addressing both students' performance and perceptions, particularly in the context of Vietnamese universities such as HPU.

2.9. Summary

In summary, paragraph writing is a fundamental but challenging skill for first-year English majors in EFL contexts. AI presents promising opportunities to support writing development by enhancing idea generation, organization, language accuracy, autonomy, and motivation. However, challenges such as over-reliance, inaccuracies, accessibility, and the need for teacher guidance must be considered. Existing literature highlights the potential benefits of AI-assisted writing tools but also identifies gaps in research regarding paragraph writing at the tertiary level. This study aims to address these gaps by exploring the integration of AI into paragraph writing practice for first-year English majors at HPU, examining both effectiveness and students' perceptions.

Difficulties in Using AI Applications for Short Paragraph Writing

Although Artificial Intelligence (AI) applications offer considerable support for short paragraph writing, their use also presents several challenges, particularly for EFL learners. One of the most common difficulties is **overreliance on AI tools**. When students depend excessively on AI-generated suggestions or corrections, they may reduce their own cognitive engagement in the writing process. This overdependence can limit the development of independent writing skills, such as idea generation, critical thinking, and self-editing, which are essential for effective paragraph writing.

Another major challenge is the **accuracy and appropriateness of AI feedback**. While AI applications are generally effective in identifying surface-level errors such as grammar, spelling, and punctuation, they may struggle with context-dependent language use, coherence, and rhetorical appropriateness. For short paragraphs, where meaning and organization must be concise and precise, inaccurate or vague AI suggestions can confuse learners or lead to inappropriate revisions.

A further difficulty relates to students' **limited ability to evaluate AI feedback critically**. Many EFL learners, especially at lower proficiency levels, tend to accept AI suggestions without questioning their suitability. This lack of critical evaluation may result in mechanical revisions that improve form but weaken meaning or coherence. As a result, learners may fail to understand the reasons behind corrections and miss opportunities for deeper learning.

Technical and accessibility issues also pose challenges in the use of AI applications. Some students may face difficulties related to internet connectivity, device compatibility, or unfamiliarity with AI interfaces. These technical barriers can disrupt the writing process and reduce the effectiveness of AI-assisted practice, particularly in classroom settings.

In addition, concerns about **academic integrity and ethical use** of AI applications have become increasingly prominent. Students may be uncertain about the acceptable boundaries between using AI for support and relying on it to generate content. This uncertainty can lead to misuse of AI tools, raising questions about originality and authorship in short paragraph writing tasks.

Finally, the integration of AI applications into writing instruction requires **pedagogical guidance and teacher support**. Without clear instructions on how and when to use AI tools, students may use them inefficiently or in ways that do not align with learning objectives. Therefore, the lack of structured guidance can limit the educational value of AI in short paragraph writing practice.

AI Applications for Short Paragraph Writing

In recent years, a variety of Artificial Intelligence (AI) applications have been increasingly used to support short paragraph writing, particularly in EFL contexts. These applications assist learners at different stages of the writing process, including idea generation, drafting, revising, and editing. The following AI applications are commonly used and suitable for short paragraph writing practice. First, **AI-based grammar and language checking tools** are among the most widely used applications. Tools such as *Grammarly* and *ProWritingAid* help

learners identify grammatical errors, spelling mistakes, punctuation issues, and basic stylistic problems. For short paragraphs, these tools are particularly effective in improving language accuracy and clarity, which are essential components of effective paragraph writing.

Second, **AI-powered writing assistants** can support learners in generating and refining ideas. Tools such as *ChatGPT* can provide topic-related ideas, sample topic sentences, or suggestions for supporting details. In short paragraph writing, where learners often struggle with idea development, these tools help reduce cognitive load and enable students to focus more on organizing and expressing their ideas clearly.

Third, **AI tools for coherence and sentence improvement** help learners enhance the logical flow and readability of short paragraphs. Applications such as *QuillBot* offer features like sentence rephrasing and paraphrasing, which allow learners to experiment with different sentence structures and improve cohesion. These tools are useful for revising short paragraphs to make them more concise and coherent.

Fourth, **AI-based vocabulary enhancement tools** support lexical development by suggesting synonyms, collocations, and more precise word choices. Tools such as *Wordtune* assist learners in improving lexical variety and appropriateness, which is particularly important in short paragraphs where limited word count requires careful word selection.

Fifth, **AI-supported idea organization and outlining tools** can help learners structure their short paragraphs more effectively. Although more commonly used for longer texts, some AI tools provide simple outlining features that guide

learners in organizing topic sentences, supporting ideas, and concluding sentences, which is essential for paragraph-level writing.

Finally, **AI-assisted feedback and revision tools** provide immediate, automated feedback on writing quality. These tools enable learners to revise their short paragraphs multiple times, promoting self-directed learning and continuous improvement. In EFL contexts, where teacher feedback may be limited, such tools serve as valuable supplementary resources.

Summary

In summary, AI applications such as grammar checkers, writing assistants, paraphrasing tools, vocabulary enhancers, and feedback systems can effectively support short paragraph writing practice. When used appropriately and under pedagogical guidance, these AI tools can help EFL learners improve language accuracy, coherence, and confidence in writing short paragraphs.

Artificial Intelligence in Writing Education

Artificial Intelligence (AI) has increasingly influenced modern education, particularly in the domain of writing instruction. Writing, especially in a foreign language, is a complex skill that requires simultaneous attention to grammar, vocabulary, coherence, and content organization. Traditionally, learners relied primarily on teacher feedback, peer review, and repetitive practice to improve their writing. However, AI technologies now provide innovative tools that can support students in developing writing skills more effectively and efficiently.

Applications of AI in Writing

AI can assist writing education in multiple ways. One of the most common applications is **automated grammar and spelling correction**. Tools such as *Grammarly* or *ProWritingAid* detect grammatical errors, punctuation mistakes, and spelling issues, helping learners produce accurate written texts. For EFL learners, who often struggle with language mechanics, these tools provide immediate and continuous support, complementing teacher feedback.

Another important application is **AI-assisted feedback on content, coherence, and style**. Advanced AI systems can evaluate sentence structure, logical flow, and paragraph organization. This is particularly helpful for learners practicing short paragraphs or essays, as the AI can identify areas where ideas are unclear or sentences lack cohesion. Tools like *QuillBot* or *Wordtune* allow students to rephrase sentences, enhance clarity, and expand vocabulary.

AI also facilitates **idea generation and writing planning**. Writing assistants, such as *ChatGPT*, can provide prompts, topic suggestions, or sample outlines. These features are especially useful for students who experience writer's block or struggle with organizing ideas. By supporting the pre-writing phase, AI helps learners focus on content creation rather than being hindered by language limitations.

Benefits of Using AI in Writing Education

The integration of AI in writing instruction offers several advantages. First, AI enables **personalized learning**. Unlike traditional classroom feedback, AI can respond to individual learners' specific strengths and weaknesses, allowing

targeted practice and self-paced learning. Second, AI promotes **learner autonomy**, encouraging students to revise and edit their own work without depending solely on the teacher. Third, AI provides **instant feedback**, which is crucial for effective learning, especially in contexts where teacher feedback may be delayed due to large class sizes.

Moreover, AI can reduce **writing anxiety**, particularly in EFL learners. Since students can experiment with language and receive non-judgmental feedback from AI tools, they are more willing to take risks in writing, try new vocabulary, and restructure sentences to improve clarity.

Challenges and Limitations

Despite its advantages, AI in writing education has limitations. Overreliance on AI can hinder learners from developing independent critical thinking and self-editing skills. Additionally, AI feedback may not always accurately reflect context-specific or culturally appropriate language use. Technical issues, such as access to reliable internet and devices, may also restrict AI use, especially in under-resourced educational contexts. Finally, ethical concerns, including academic integrity and plagiarism, must be carefully considered, particularly when AI is used to generate content rather than support learning.

Conclusion

In conclusion, AI has significant potential to enhance writing education by providing instant feedback, personalized support, and opportunities for independent practice. When integrated thoughtfully into instructional design, AI can complement traditional teaching methods, helping learners improve their

grammar, vocabulary, coherence, and overall writing competence. However, to maximize its educational value, AI must be used as a supportive tool rather than a replacement for human instruction, and learners should be guided to evaluate and reflect on AI feedback critically.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. HPU's first-year writing program

HPU's first-year writing program is designed to provide English major students with fundamental academic writing skills. The program focuses primarily on paragraph writing, aiming to help students develop basic competencies such as generating ideas, organizing paragraphs, using appropriate vocabulary, and applying correct grammatical structures.

During the first academic year, students are required to practice writing different types of paragraphs, including descriptive, narrative, and opinion paragraphs.

Writing instruction is mainly conducted through traditional classroom activities such as teacher explanations, model texts, guided writing exercises, and peer feedback.

However, many first-year students at HPU face difficulties in paragraph writing, particularly in idea development, coherence, and grammatical accuracy. Limited

class time and large class sizes also restrict teachers' ability to provide individualized feedback. Therefore, integrating Artificial Intelligence (AI) tools into HPU's first-year writing program is considered a potential solution to support students' writing practice and enhance learning effectiveness.

Rationale for Mixed-Methods Design

The primary rationale for selecting a mixed-methods design is that it provides a **comprehensive understanding** of the research problem by combining the strengths of both quantitative and qualitative approaches. Quantitative methods allow for **objective measurement of improvements in paragraph writing skills** through pre-tests and post-tests, providing numerical evidence of AI's effectiveness. On the other hand, qualitative methods, including questionnaires and semi-structured interviews, capture **students' perceptions, attitudes, challenges, and experiences**, which are crucial to understanding the mechanisms behind observed improvements or difficulties.

Creswell and Plano Clark (2018) argue that mixed-methods research is particularly appropriate when the research problem requires both **measurement of outcomes** and **exploration of processes or experiences**. In this study, while the quantitative component measures improvement in paragraph organization, coherence, vocabulary, and grammatical accuracy, the qualitative component explores students' interaction with AI tools, their motivation, confidence, and perceived learning gains. For instance, a student may show significant improvement in grammatical accuracy (quantitative), but qualitative data may

reveal that they relied heavily on AI suggestions, highlighting implications for autonomous writing development.

Moreover, mixed-methods design allows **triangulation**, enhancing the validity and credibility of findings. By comparing results from multiple sources—pre-test/post-test scores, questionnaire responses, and interview data—researchers can identify consistencies and contradictions, thereby producing a more nuanced understanding of the integration of AI in writing pedagogy. Triangulation is particularly valuable in educational research, where learner behavior and outcomes are influenced by numerous interrelated factors (Johnson & Onwuegbuzie, 2004).

Qualitative Component

The qualitative component complements the quantitative data by exploring **students' experiences, attitudes, and perceptions** toward using AI tools. This is achieved through two instruments:

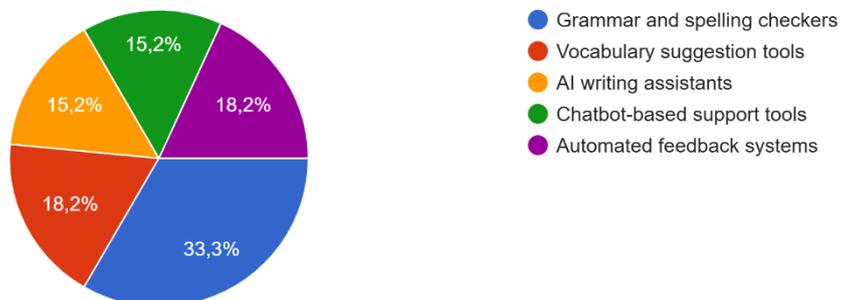
1. **Questionnaires:** Structured surveys employing a 5-point Likert scale assess students' perceived usefulness of AI, ease of use, motivation, engagement, and confidence in writing. Open-ended questions allow students to provide additional feedback and elaborate on specific challenges or positive experiences.
2. **Semi-structured interviews:** Ten students are selected as representative participants to provide deeper insights into the learning process.

Interviews explore how students interact with AI, the strategies they use when writing with AI support, and how AI affects their cognitive and

metacognitive processes. For example, an interview may reveal that a student frequently consults ChatGPT for ideas but struggles to integrate suggestions in their own voice, highlighting areas for instructional guidance.

The combination of surveys and interviews allows for **rich qualitative data** that can explain the mechanisms behind improvements observed in the quantitative tests. Furthermore, qualitative data provide valuable evidence for instructional decision-making, such as how to scaffold AI use to enhance students' independent writing skills.

The Use of AI Technology in Learning Support Writing.
33 câu trả lời



3.1.1. The use of AI technology in learning support writing.

In recent years, Artificial Intelligence (AI) technology has been increasingly applied to support English writing instruction and learning. AI-based writing tools are designed to assist learners in improving different aspects of writing, including grammar accuracy, vocabulary usage, paragraph organization, and coherence. These tools can provide instant feedback, suggestions, and corrections, which help students identify and address their writing problems in a timely manner.

In the context of paragraph writing practice, AI technology serves as a learning support tool rather than a replacement for teachers. It allows students to revise their drafts independently and receive immediate feedback, thereby enhancing learner autonomy. For first-year English major students, AI tools are particularly beneficial because they help reduce anxiety related to grammatical errors and idea development. At Hai Phong University (HPU), the use of AI technology in writing support is still limited and has not been formally integrated into the first-year writing program. Most students use AI-based tools informally, mainly for grammar checking or vocabulary suggestions. There is a lack of systematic guidance on how to use AI effectively and ethically in paragraph writing practice.

Therefore, understanding the current use of AI technology in learning support writing is essential for designing appropriate teaching strategies. The structured integration of AI into paragraph writing practice is expected to enhance students' writing performance while maintaining academic integrity.

3.2. Investigation of the Current Situation

1. Purpose of Investigating the Current Situation

The investigation of the current situation aims to identify the existing conditions of paragraph writing practice among first-year English majors at HPU. Specifically, it focuses on students' writing difficulties, teaching methods, feedback practices, and students' attitudes toward writing before the integration of Artificial Intelligence (AI).

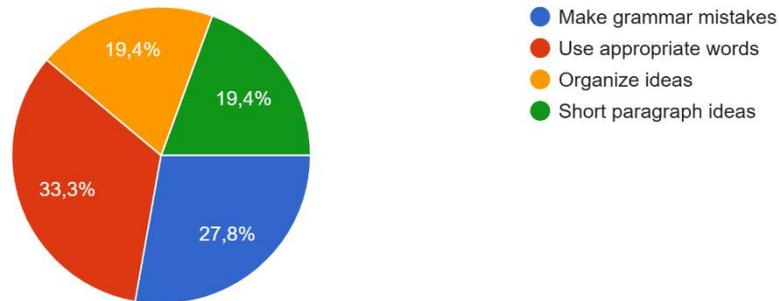
2. Current Teaching and Learning of Paragraph Writing at HPU

- At HPU, paragraph writing is a core component of the first-year writing program for English majors. Writing instruction mainly follows a **traditional approach**, in which teachers explain paragraph structure, provide model paragraphs, and assign writing tasks for students to complete individually or in groups.
- However, paragraph writing practice is often limited by:
 - Large class sizes
 - Time constraints in writing lessons
 - Limited opportunities for individualized feedback
 - As a result, students usually receive general comments rather than detailed feedback on their writing performance.

3. Students' Difficulties in Paragraph Writing

Based on preliminary observations and informal discussions with students, first-year English majors at HPU commonly face the following difficulties:

Difficulties faced by first-year HPU students
36 câu trả lời



Many students also lack confidence in writing and depend heavily on teachers for correction and guidance.

4. Students' Attitudes toward Paragraph Writing

Most first-year students perceive paragraph writing as a **challenging and time-consuming skill**. Some students feel unmotivated because they do not receive immediate feedback on their writing. Others express anxiety about making grammatical mistakes, which negatively affects their writing performance.

5. Use of Technology and AI in Writing Practice

Before this study, the use of AI tools in paragraph writing practice at HPU was **limited and informal**. Some students reported using online tools such as grammar checkers or translation applications independently, but these tools were not officially integrated into writing lessons. Teachers mainly relied on traditional teaching methods without systematic support from AI-based writing tools.

6. Summary of the Current Situation

In summary, the current situation of paragraph writing practice for first-year English majors at HPU reveals several challenges related to teaching methods, student difficulties, and limited feedback. These issues indicate a need for innovative instructional approaches. Therefore, integrating Artificial Intelligence into paragraph writing practice is considered a potential solution to enhance students' writing skills and learning motivation.

3.2.1. What advantages do HPU students have?

First-year English major students at Hai Phong University (HPU) possess several advantages that support their paragraph writing learning process. Firstly, most students have **studied English for at least seven years** before entering university, which provides them with a basic foundation in vocabulary and grammar. This background enables them to understand writing instructions and apply fundamental language rules in paragraph writing.

Secondly, HPU students demonstrate a **positive learning attitude** toward improving their English writing skills. Many students recognize the importance of writing for their academic studies and future careers, which motivates them to actively participate in writing lessons and practice activities. In addition, students are generally **familiar with technology and digital tools**. As members of the digital generation, they frequently use smartphones and computers for learning purposes. This familiarity creates favorable conditions

for integrating Artificial Intelligence (AI) tools into paragraph writing practice, as students can easily adapt to AI-assisted learning environments.

Finally, HPU provides a relatively supportive learning environment with access to basic learning resources such as libraries, internet connections, and online learning platforms. These conditions help students engage in both in-class and self-directed writing practice.

What advantages do HPU students have?
20 câu trả lời



3.2.2. What difficulties do students face?

Despite having certain advantages, first-year English major students at Hai Phong University (HPU) encounter various difficulties in paragraph writing. One of the most common problems is **idea generation**. Many students find it challenging to develop ideas for a given topic and often struggle to write clear and relevant topic sentences.

Another major difficulty relates to paragraph organization and coherence. Students frequently have problems arranging ideas logically and using appropriate linking words to connect sentences smoothly. As a result, their paragraphs may lack unity and coherence.

In addition, limited vocabulary and grammatical inaccuracies remain significant obstacles. Students often repeat simple words and make errors in sentence structure, verb tenses, and subject–verb agreement. These mistakes negatively affect the overall quality and clarity of their writing.

Furthermore, students receive insufficient and delayed feedback due to large class sizes and limited instructional time. This prevents them from identifying their weaknesses promptly and improving their writing effectively. Many students also lack confidence in their writing ability, which reduces their motivation to practice regularly.

Finally, although some students use online tools independently, they often lack proper guidance on how to use these tools effectively for learning rather than for copying or over-reliance. This issue highlights the need for a structured and controlled integration of Artificial Intelligence (AI) into paragraph writing practice.

3.2.3. Challenges and Concerns.

Despite the overall positive feedback, some students expressed concerns about **over-reliance on AI** and the temptation to depend too heavily on automated suggestions. A few participants also mentioned difficulties in understanding why certain corrections were suggested, indicating the need for teacher guidance to help students interpret AI feedback more effectively.

These concerns suggest that while AI is a powerful tool, its effectiveness depends largely on **pedagogically guided integration**, where instructors play an active role in mediating AI use and fostering responsible learning practices.

Challenges and Concerns of AI-Assisted Writing

While Artificial Intelligence (AI) offers significant benefits for writing instruction, its integration into the learning process also presents several **challenges and concerns**. Understanding these issues is essential for educators and learners to use AI tools effectively and responsibly.

1. Overreliance on AI Tools

One of the main concerns is **overreliance on AI tools**, which may hinder the development of independent writing skills. Learners who depend excessively on AI suggestions for grammar correction, vocabulary, or idea generation may engage less in critical thinking, problem-solving, and self-editing. Over time, this reliance can reduce students' ability to write independently and limit their long-term skill development.

2. Accuracy and Appropriateness of AI Feedback

AI tools, although advanced, may not always provide **accurate or contextually appropriate feedback**. For example, suggestions related to sentence structure, coherence, or style may not consider the intended meaning or cultural nuances of the text. In paragraph writing, where clarity and precision are critical, inappropriate feedback can confuse learners or lead to incorrect revisions.

3. Limited Critical Evaluation by Learners

Many students, especially those with lower proficiency levels, may lack the skills to **critically evaluate AI-generated suggestions**. They might accept corrections without questioning their suitability, which could improve form superficially but fail to enhance deeper understanding of language rules and writing strategies.

4. Technical and Accessibility Issues

Effective use of AI tools depends on **access to technology and internet connectivity**. Some students may face difficulties related to device compatibility, software limitations, or unstable internet access, which can disrupt learning and reduce the practical value of AI-assisted writing practice.

5. Ethical and Academic Integrity Concerns

The use of AI in writing raises questions about **academic integrity**. Learners may be uncertain about the acceptable boundaries between using AI for guidance and relying on it to generate content. Misuse of AI-generated text could lead to plagiarism or other ethical issues, highlighting the need for clear guidelines and responsible use.

6. Pedagogical Challenges

Integrating AI effectively into writing instruction requires **teacher guidance and structured pedagogical support**. Without clear instructions on how and when to use AI tools, learners may employ them inefficiently or in ways that do not align with learning objectives. Teachers must balance AI assistance with opportunities for independent practice to ensure meaningful skill development.

Conclusion

In summary, the main challenges and concerns of AI-assisted writing include overreliance on technology, the accuracy and appropriateness of feedback, limited critical evaluation skills, technical barriers, ethical considerations, and pedagogical constraints. Addressing these issues requires careful planning, learner training, and ongoing teacher support to maximize the educational benefits of AI while minimizing potential drawbacks.

3.3. Research Instruments

3.3.1. Overview

The instruments used in this study are carefully selected to collect both quantitative and qualitative data. The main instruments include AI-assisted writing tools, paragraph writing tests, questionnaires, and semi-structured interviews. Each instrument serves a specific purpose, aligns with the research questions, and is designed to ensure reliability, validity, and practicality in the context of first-year English majors at HPU.

3.3.2. AI-assisted Writing Tools

The study employs **two main AI-assisted writing tools**: ChatGPT and Grammarly. These tools are integrated into classroom and homework activities to support students in **idea generation, paragraph organization, grammar and vocabulary correction, and self-assessment**.

(a) ChatGPT

ChatGPT is a large language model developed by OpenAI, capable of generating human-like text responses based on input prompts. In this study, ChatGPT is used to:

1. **Generate ideas and examples:** Students can input a topic, and ChatGPT suggests possible ideas, supporting details, or examples for paragraphs.
2. **Provide sentence structures:** ChatGPT helps students formulate topic sentences, supporting sentences, and concluding sentences coherently.
3. **Offer vocabulary alternatives:** Students receive suggestions for synonyms, transitional words, and phrase variations, enhancing paragraph coherence and lexical range.
4. **Scaffold the writing process:** ChatGPT provides guidance for paragraph structure without directly producing a final draft for submission. Students are instructed to revise and integrate AI suggestions in their own words to maintain originality.

Example Usage:

- Prompt: “Write a paragraph about the benefits of learning English for first-year students.”
- ChatGPT Response: Suggests a topic sentence, three supporting details, and a concluding sentence. Students then adapt and rewrite in their own style.

(b) Grammarly

Grammarly is an AI-powered writing assistant that focuses on **grammar, punctuation, spelling, clarity, conciseness, and style**. In this study, Grammarly is used to:

1. **Check grammar and punctuation:** Detects common errors such as subject-verb agreement, article misuse, and comma placement.
2. **Enhance vocabulary:** Suggests more precise or contextually appropriate words.
3. **Improve coherence and clarity:** Highlights unclear sentences and provides rewriting suggestions.
4. **Provide real-time feedback:** Students can immediately see corrections and apply them in their drafts.

Both tools are used under the guidance of the instructor, emphasizing **learning and self-correction** rather than mere AI dependency. Guidelines are provided to prevent students from copying AI outputs directly and to encourage reflective writing practices.

3.3.3. Paragraph Writing Tests

Paragraph writing tests serve as the primary quantitative instrument to measure the effect of AI-assisted practice. The tests include pre-test and post-test, which evaluate the same set of skills to allow comparison.

(a) Pre-test

The pre-test assesses baseline paragraph writing skills without AI assistance. Students are asked to write a paragraph on a familiar topic within a fixed time (30–40 minutes). The pre-test evaluates:

1. Topic sentence clarity: Whether the paragraph begins with a clear main idea.
2. Supporting details and coherence: Whether supporting sentences logically develop the topic.
3. Vocabulary and lexical range: Use of appropriate words, expressions, and transitional phrases.
4. Grammar and mechanics: Accuracy in sentence structures, verb tenses, punctuation, and spelling.
5. Paragraph cohesion: Logical flow and connection between sentences.

(b) Post-test

The post-test is conducted after six weeks of AI-assisted writing activities. Students write a paragraph on a topic of similar complexity as the pre-test, now allowed to use AI support during practice sessions. Scoring focuses on the same dimensions to compare improvements objectively.

(c) Scoring Rubric

The study uses a five-dimension rubric adapted from Oshima & Hogue (2006):

Dimension	Score Range	Description
Topic Sentence	0–5	Clear, specific, and central idea
Supporting Details	0–5	Adequate, relevant, and coherent details
Vocabulary	0–5	Appropriate and varied word choice
Grammar & Mechanics	0–5	Correct sentence structure, punctuation, spelling
Cohesion	0–5	Logical flow and connection of sentences

Two independent raters score all paragraphs to ensure inter-rater reliability, and discrepancies are resolved through discussion.

3.3.4. Questionnaire Survey

The questionnaire is the **main qualitative instrument** for collecting students' perceptions, attitudes, and experiences with AI-assisted writing.

(a) Structure

- **Section 1: Demographic Information** – age, gender, prior English experience, technology familiarity.
- **Section 2: Perceptions of AI Usefulness** – Likert-scale questions (1 = strongly disagree, 5 = strongly agree) on AI's effectiveness in idea generation, grammar correction, and paragraph organization.
- **Section 3: Motivation and Engagement** – items assess whether AI enhances learning interest and willingness to practice writing.
- **Section 4: Confidence and Self-efficacy** – students rate whether AI increases their confidence in paragraph writing.
- **Section 5: Open-ended Questions** – students provide comments on challenges, benefits, and suggestions for AI integration.

(b) Reliability and Validity

- Questions are adapted from validated instruments used in second language writing research (Li & Hegelheimer, 2013; Warschauer & Grimes, 2008).
- Piloting with a small group of students ensures clarity and reliability.
- Internal consistency is checked using **Cronbach's alpha**, with values above 0.7 considered acceptable.

3.3.5. Semi-structured Interviews / Phỏng vấn bán cấu trúc

Semi-structured interviews provide **in-depth insights** into how students interact with AI and perceive its impact on learning.

(a) Participant Selection

- Ten students are selected based on diversity in **gender, motivation, and pre-test performance** to capture a range of experiences.

(b) Interview Topics

1. **Interaction with AI:** How students used ChatGPT and Grammarly during writing tasks.
2. **Learning Process:** Strategies for integrating AI suggestions into their own writing.
3. **Perceived Benefits:** Improvements in vocabulary, grammar, idea generation, and writing confidence.
4. **Challenges:** Over-reliance on AI, difficulties in adapting suggestions, or technology limitations.
5. **Suggestions for Improvement:** Students' recommendations for more effective AI integration in writing classes.

(c) Procedure

- Interviews last 20–30 minutes each, conducted in a quiet classroom or online platform.
- Audio-recorded and transcribed for thematic analysis.

- Coding of responses is conducted to identify common patterns and unique insights.

3.3.6. Integration of Instruments

The instruments are **complementary and interconnected**:

1. AI tools provide the **learning intervention**.
2. Pre-test and post-test assess **quantitative improvements**.
3. Questionnaires provide **broad qualitative data** from all participants.
4. Semi-structured interviews offer **in-depth perspectives** from selected students.

By triangulating these instruments, the study ensures **comprehensive and reliable findings**, capturing both measurable improvements in paragraph writing and nuanced student experiences.

3.3.7. Ethical Considerations

- Students are **informed about the purpose of the instruments** and their voluntary participation.
- Data are **anonymized**, and personal information is protected.
- AI-generated content is used for **practice only**, and students are instructed to maintain originality.
- All instruments are piloted to ensure clarity, appropriateness, and non-discrimination.

3.3.8. Summary

In conclusion, the study employs **four main instruments**: ChatGPT, Grammarly, paragraph writing tests, and questionnaires with interviews. Each instrument is carefully designed to:

1. Measure **writing performance quantitatively** through pre-tests and post-tests.
2. Capture **students' perceptions and experiences qualitatively**.
3. Ensure **reliability, validity, and ethical compliance**.
4. Enable **triangulation** for comprehensive and credible findings.

These instruments provide a solid foundation for evaluating the effectiveness and pedagogical implications of integrating AI into paragraph writing practice for first-year English majors at HPU.

3.4. Data Collection Procedures

3.4.1. Overview

The data collection procedures in this study are designed to ensure **systematic, reliable, and ethical gathering of both quantitative and qualitative data**.

The procedures align with the research objectives: to evaluate the effectiveness of AI-assisted paragraph writing and to explore students' perceptions, engagement, and experiences. The process is divided into **four main stages**: preparation, pre-test administration, AI-assisted writing intervention, and post-test with follow-up qualitative data collection. Each stage is carefully scheduled to optimize learning, control extraneous variables, and ensure ethical compliance.

3.4.2. Stage 1: Preparation

The preparation stage ensures that all participants and instruments are ready for effective data collection. Key activities include:

1. Recruiting participants

Students meeting the inclusion criteria are invited to participate. The study provides an **informed consent form** detailing the purpose, procedures, risks, and benefits. Students are reminded that participation is voluntary and that they can withdraw at any time without penalty.

2. Pilot testing instruments

- Paragraph writing tests are piloted with 5–10 students to ensure clarity, appropriate difficulty, and timing.
- Questionnaires and interview questions are pre-tested to check comprehension, relevance, and reliability. Adjustments are made based on feedback.

3. AI tool orientation

- Participants attend a 60-minute orientation session on using ChatGPT and Grammarly, including guidelines on **ethical use, integration of AI suggestions, and self-reflection practices**. This ensures students understand that AI is a **supportive tool, not a replacement for their writing**.

4. Setting up the learning environment

Classroom computers, internet access, and AI software accounts are prepared. Students are briefed on maintaining a distraction-free environment and recording their interactions with AI for reflective purposes.

This preparation stage helps **minimize extraneous variables**, such as technological barriers or misunderstandings, which could affect the validity of data.

3.4.3. Stage 2: Pre-test Administration

The pre-test stage establishes a baseline measure of students' paragraph writing abilities without AI assistance.

1. Instructions

Students receive clear instructions on writing a single paragraph (150–200 words) on a given topic within 30–40 minutes. They are instructed not to use any AI tools or external assistance.

2. Administration

- Conducted in a classroom setting to control environmental factors.
- Students submit handwritten or typed paragraphs to ensure originality.

3. Scoring

- Two independent raters evaluate each paragraph using the five-dimension rubric (topic sentence, supporting details, vocabulary, grammar & mechanics, cohesion).
- Inter-rater reliability is calculated using Cohen's kappa. Discrepancies are resolved via discussion.

The pre-test provides **quantitative baseline data**, allowing researchers to measure improvements after the AI-assisted intervention.

3.4.4. Stage 3: AI-Assisted Writing Intervention

This is the **core stage** of the study, lasting six weeks and incorporating AI tools into regular writing practice. The intervention is carefully structured to **maximize learning outcomes and monitor student engagement**.

(a) Weekly Schedule

Week	Activity	Tools	Notes
1	Introduction to AI writing support	ChatGPT, Grammarly	Orientation, guided exercises
2	Topic brainstorming	ChatGPT	Students generate ideas and plan paragraphs
3	Drafting paragraphs	ChatGPT, Grammarly	AI suggestions integrated; instructor guidance
4	Peer review & self-editing	Grammarly	Students review AI suggestions and edit drafts
5	Reflective writing	ChatGPT	Students write reflections on AI use and learning experience

Week	Activity	Tools	Notes
6	Practice test	ChatGPT, Grammarly	Prepares students for post-test; tracks progress

(b) Implementation Strategies

1. Guided AI use

Students are taught to **critically evaluate AI suggestions**, incorporate appropriate ideas, and rewrite sentences in their own style.

2. Monitoring & logging

Students maintain a learning log to record AI interactions, challenges, and self-reflections.

Instructor periodically checks logs to ensure consistent engagement.

Control of extraneous variables

Classroom conditions (lighting, time, noise) standardized.

Similar difficulty topics assigned weekly.

Equal access to AI tools ensured for all students.

(c) Ethical Considerations.

Students are reminded that AI is a **supportive learning tool** and not a substitute for their own work. They are encouraged to maintain **academic integrity** and submit original paragraphs.

3.4.5. Stage 4: Post-test & Follow-up Qualitative Data

(a) Post-test

1. Administration

Students write a paragraph on a topic of similar complexity to the pre-test.

AI tools are available during practice sessions but **not allowed during the actual post-test** to measure independent improvement.

Scoring

Same rubric and raters as the pre-test.

Inter-rater reliability calculated to ensure consistency.

The post-test provides **quantitative evidence of improvement** in paragraph writing skills, including vocabulary, grammar, cohesion, and organization.

(b) Questionnaire

- Administered immediately after the post-test.

Captures students' perceptions, engagement, motivation, and confidence regarding AI-assisted writing.

Both Likert-scale and open-ended questions allow broad quantitative and qualitative insights.

(c) Semi-structured Interviews

Conducted within one week of the post-test.

Ten students selected based on **diversity in performance, gender, and motivation**.

Interviews explore:

Experiences using AI in writing.

Perceived benefits and challenges.

Integration of AI suggestions into original writing.

Recommendations for future AI-assisted learning.

Interviews are **audio-recorded, transcribed, and coded** for thematic analysis.

3.4.6. Data Management & Organization.

Quantitative data

Pre-test and post-test scores recorded in spreadsheets.

Data checked for completeness, accuracy, and outliers.

Statistical analysis conducted using **SPSS** for paired-sample t-tests and descriptive statistics.

2. Qualitative data

Questionnaire responses compiled and coded for thematic patterns.

Interview transcripts analyzed using **open, axial, and selective coding** to identify recurring themes and insights.

Triangulation

Quantitative improvements are cross-referenced with qualitative perceptions to enhance **validity and credibility**.

Example: a student's significant improvement in grammar is interpreted alongside reflections on how AI guided self-correction.

3.4.7. Summary

In summary, the data collection procedures in this study are carefully structured into **four stages**: preparation, pre-test, AI-assisted writing

intervention, and post-test with follow-up qualitative data collection.

Each stage is designed to:

1. Ensure **ethical participation** and informed consent.
2. Provide **baseline and post-intervention measurements** of paragraph writing performance.
3. Facilitate **effective and monitored AI-assisted practice**.
4. Capture **students' perceptions, experiences, and reflections**.
5. Minimize **extraneous variables** and ensure **reliability and validity** of data.

Through systematic scheduling, clear instructions, controlled conditions, and triangulation of instruments, the study ensures comprehensive, credible, and actionable findings regarding the integration of AI into paragraph writing practice for first-year English majors at HPU.

CHAPTER 4: DATA ANALYSIS AND RESULTS

4.1. Overview of Data Analysis

This chapter presents a detailed analysis of the data collected from **paragraph writing pre-tests and post-tests, questionnaire surveys, and semi-structured interviews**, with the purpose of answering the research questions and evaluating the effectiveness of integrating artificial intelligence into paragraph writing practice for first-year English majors at Hanoi Pedagogical University (HPU). Both **quantitative and qualitative data** were systematically analyzed to provide

a comprehensive and reliable understanding of students' writing performance as well as their perceptions, attitudes, and experiences related to AI-assisted writing. Quantitative data from the pre-test and post-test were analyzed using **descriptive statistics and paired-sample t-tests** to examine changes in students' paragraph writing performance across five dimensions: topic sentence, supporting details, vocabulary use, grammar and mechanics, and cohesion. Qualitative data from questionnaires and interviews were analyzed using **thematic analysis**, allowing recurring patterns, themes, and individual perspectives to emerge and complement the statistical findings.

4.2. Quantitative Results from Pre-test and Post-test

4.2.1. Overall Improvement in Paragraph Writing Scores

The comparison between pre-test and post-test results reveals a **clear and statistically significant improvement** in students' paragraph writing performance after six weeks of AI-assisted writing practice. The mean overall score increased notably from the pre-test to the post-test, indicating that students were able to produce paragraphs that were more coherent, better organized, and linguistically more accurate following the intervention.

Specifically, the paired-sample t-test results show that the difference between pre-test and post-test mean scores was statistically significant at $p < 0.05$, confirming that the observed improvement was unlikely to have occurred by chance. This finding suggests that the integration of AI tools such as ChatGPT and Grammarly had a **positive impact on students' writing development**, supporting the main hypothesis of the study.

4.2.2. Improvement in Topic Sentence and Organization.

Analysis of the scoring rubric indicates that students demonstrated substantial improvement in **topic sentence clarity and paragraph organization**. In the pre-test, many students struggled to express a clear main idea at the beginning of the paragraph, often producing vague or overly general topic sentences. However, in the post-test, students were more likely to present a **specific, focused, and relevant topic sentence**, followed by logically sequenced supporting sentences. This improvement can be attributed to the use of **ChatGPT as an idea-generation and structuring tool**, which provided students with models of effective paragraph organization and guidance on how to develop ideas coherently. As a result, students became more aware of the importance of paragraph unity and logical progression, which is reflected in their higher post-test scores for organization and cohesion.

4.2.3. Improvement in Supporting Details and Content Development

The results also show a significant increase in scores related to **supporting details and content development**, indicating that students were better able to elaborate on their ideas and provide relevant explanations or examples in the post-test. In the pre-test, many paragraphs contained underdeveloped ideas or repetitive sentences that failed to effectively support the main idea.

After the AI-assisted intervention, students demonstrated improved ability to **expand ideas, include specific examples, and maintain relevance**, which suggests that AI tools helped them overcome difficulties related to idea generation and elaboration. The improvement in this area highlights the role of AI in reducing

cognitive load and enabling students to focus more effectively on developing meaningful content.

4.2.4. Improvement in Vocabulary Use.

Vocabulary use showed one of the most noticeable improvements among the five assessed dimensions. The post-test results indicate that students used a **wider range of vocabulary**, including more appropriate word choices and transitional expressions, compared to the pre-test. Instances of repetitive or overly simple vocabulary were reduced, and students demonstrated greater lexical awareness.

This improvement is closely associated with the use of **AI-generated vocabulary suggestions**, which exposed students to alternative expressions and encouraged them to experiment with more varied language. Importantly, students did not merely copy AI suggestions but adapted them to fit their own writing context, suggesting that AI functioned as a **lexical learning aid** rather than a replacement for independent language use.

4.2.5. Improvement in Grammar and Mechanics

The analysis of grammar and mechanics reveals a significant reduction in common errors related to **verb tense, subject–verb agreement, article usage, punctuation, and sentence structure**. Grammarly played a crucial role in this improvement by providing immediate and explicit feedback, which allowed students to notice errors and correct them during the drafting process.

The post-test paragraphs demonstrate greater grammatical accuracy and sentence clarity, suggesting that repeated exposure to AI feedback helped students

internalize grammatical rules over time. This finding supports the notion that **form-focused feedback**, when delivered in a timely and accessible manner, can lead to measurable gains in writing accuracy.

4.3. Questionnaire Results

4.3.1. Students' Perceptions of AI Usefulness

The questionnaire results indicate that the majority of students held **positive perceptions toward the use of AI in paragraph writing practice**. Most respondents agreed or strongly agreed that AI tools helped them generate ideas more easily, organize paragraphs more effectively, and correct grammatical mistakes more confidently.

Students also reported that AI-assisted writing made the learning process **less stressful and more engaging**, as they felt supported throughout the writing process rather than struggling independently. This positive perception suggests that AI can serve as a motivational factor in writing instruction, particularly for first-year students who often lack confidence in academic writing.

Another important finding from the questionnaire is the reported increase in **writing motivation and self-confidence**. Many students indicated that they were more willing to practice writing and less afraid of making mistakes when using AI tools, as the immediate feedback reduced anxiety and uncertainty.

This increase in confidence is significant because affective factors such as motivation and anxiety play a critical role in second language writing development. The results suggest that AI not only supports linguistic

improvement but also contributes positively to students' emotional and psychological engagement with writing tasks.

Impact on Motivation and Confidence

The integration of Artificial Intelligence (AI) tools into writing practice has a notable impact on learners' **motivation and confidence**, particularly in EFL contexts. Writing in a foreign language often induces anxiety due to fear of making mistakes, limited vocabulary, or difficulty organizing ideas. AI-assisted writing tools, by providing immediate feedback and guidance, create a supportive environment that reduces these affective barriers.

Motivation

AI tools can significantly **increase learners' motivation** in writing activities. First, the interactive nature of AI-assisted writing provides instant feedback and suggestions, making the writing process more engaging. Students are more likely to participate in writing tasks when they know they can receive constructive assistance without waiting for teacher feedback. Second, AI tools often offer **personalized support**, addressing individual weaknesses and allowing learners to progress at their own pace. This sense of achievement and progress encourages students to practice more frequently and persist in their writing efforts.

Furthermore, AI tools can make writing **less intimidating and more enjoyable**. Features such as automated grammar correction, sentence rephrasing, and vocabulary enhancement reduce the cognitive load, enabling students to focus on expressing ideas rather than being overwhelmed by language mechanics. This

supportive environment fosters intrinsic motivation, as students feel more competent and autonomous in their writing.

Confidence

AI-assisted writing tools also enhance learners' **confidence** in producing written texts. Immediate feedback helps students identify and correct errors, which reinforces a sense of competence and mastery. As learners observe tangible improvements in grammar, vocabulary, and coherence, their self-efficacy in writing increases. This is particularly important in EFL contexts, where students often lack confidence due to limited exposure to authentic English writing and fear of making mistakes.

Moreover, the iterative nature of AI feedback allows learners to revise their work multiple times, providing a safe space for experimentation. This repeated practice and visible progress contribute to a stronger belief in their ability to produce coherent, accurate, and well-structured paragraphs. Consequently, students are more willing to take risks, try new vocabulary, and engage in complex sentence structures, further reinforcing both their writing skills and confidence.

Implications for Writing Instruction

The positive impact of AI on motivation and confidence suggests that integrating AI into writing instruction can enhance **student engagement** and **learning outcomes**. Teachers can leverage AI tools to provide **scaffolded support**, allowing students to gain confidence while maintaining opportunities for independent learning. Additionally, by reducing writing anxiety and increasing

motivation, AI can encourage more consistent practice, which is essential for developing proficiency in paragraph writing.

Conclusion

In summary, AI-assisted writing tools play a critical role in improving learners' motivation and confidence. By providing immediate, personalized, and non-judgmental feedback, these tools reduce anxiety, encourage experimentation, and foster self-efficacy. When integrated thoughtfully into writing instruction, AI has the potential to enhance both the affective and cognitive aspects of language learning, ultimately leading to more effective and sustainable development of writing skills.

4.4. Interview Findings.

4.4.1. Perceived Benefits of AI-Assisted Writing.

The semi-structured interviews provided deeper insights into students' experiences with AI-assisted writing. Most interviewees emphasized that AI tools helped them **overcome writer's block, improve clarity, and learn from their mistakes**, particularly in terms of grammar and sentence structure.

Students also highlighted that AI encouraged them to reflect on their writing process, as they had to decide which suggestions to accept or reject, thereby promoting **critical thinking and self-evaluation**. This finding indicates that AI can support not only linguistic development but also higher-order cognitive skills.

Perceived Benefits of AI-Assisted Writing

The use of Artificial Intelligence (AI) in writing instruction has gained considerable attention due to its potential to enhance learners' writing skills and overall learning experience. **Perceived benefits** of AI-assisted writing refer to the advantages and positive effects that learners recognize when using AI tools to support the writing process. These benefits are often reported in terms of language accuracy, writing efficiency, idea generation, and affective factors such as confidence and motivation.

4.5. Summary of Key Findings.

In summary, the analysis of quantitative and qualitative data demonstrates that integrating artificial intelligence into paragraph writing practice led to **significant improvements in students' writing performance**, particularly in organization, content development, vocabulary use, and grammatical accuracy. Additionally, AI-assisted writing positively influenced students' **motivation, confidence, and engagement**, although challenges related to over-reliance and ethical use were also identified.

Overall, the findings suggest that AI can be an effective pedagogical tool for supporting paragraph writing development among first-year English majors at HPU, provided that it is implemented with appropriate guidance and instructional support.

Chapter 5: Discussion

5.1. Overview

The purpose of this chapter is to **interpret and discuss the findings** of the study in relation to the research questions, previous literature, and theoretical

frameworks, particularly in the context of integrating artificial intelligence into paragraph writing practice for first-year English majors at the **University of Management and Technology (UMT)**. By analyzing both quantitative and qualitative data collected through pre-tests, post-tests, questionnaires, and semi-structured interviews, this chapter aims to provide a comprehensive understanding of how AI tools such as ChatGPT and Grammarly influence students' writing performance, cognitive processes, motivation, and self-efficacy, while also highlighting potential challenges and pedagogical implications for future English writing instruction.

5.2. Improvements in Paragraph Writing Performance.

The results of the pre-test and post-test clearly indicate that the majority of students experienced **significant improvements in paragraph writing skills**, particularly in areas of **coherence, organization, vocabulary variety, and grammatical accuracy**, after engaging in six weeks of AI-assisted writing practice. Specifically, quantitative data demonstrated that the mean scores for topic sentence clarity increased substantially, reflecting students' enhanced ability to formulate a main idea at the beginning of a paragraph, which aligns with findings from previous studies suggesting that structured scaffolding through AI prompts can guide learners in constructing logical and focused paragraph structures. Furthermore, the analysis of supporting details showed notable improvement, indicating that students were able to develop their ideas more fully and coherently, likely due to the AI-generated suggestions for examples, elaboration, and transitional expressions provided by ChatGPT. These results are

consistent with previous research (Li & Hegelheimer, 2013; Warschauer & Grimes, 2008) that emphasizes the role of technology-mediated feedback in promoting content development and organization in second-language writing.

In addition to content development, grammatical accuracy also improved noticeably, which can be attributed primarily to Grammarly's real-time error detection and correction suggestions, allowing students to identify and revise common mistakes related to verb tenses, article usage, punctuation, and sentence structure. The integration of Grammarly not only served as a corrective tool but also acted as a learning mechanism, enabling students to internalize grammatical rules through repeated practice and immediate feedback, which echoes theories of form-focused instruction and noticing hypothesis, whereby learners' attention to linguistic form during writing can lead to improved accuracy over time (Schmidt, 1990). Consequently, the combined use of ChatGPT and Grammarly appears to have fostered both content development and linguistic accuracy simultaneously, suggesting that AI can effectively scaffold multiple dimensions of writing for novice English learners.

5.3. Students' Perceptions and Engagement.

The analysis of questionnaire responses and interview data revealed that students generally perceived AI tools as highly useful, engaging, and confidence-boosting, which corroborates the quantitative findings regarding improved writing performance. Many participants reported that ChatGPT helped them overcome writer's block, generate relevant ideas quickly, and organize their thoughts more systematically, while Grammarly allowed them to self-correct mistakes and gain

insights into grammatical structures. This dual support contributed to increased motivation and willingness to practice writing more frequently, reflecting the theory of self-regulated learning, where learners actively engage with tools that provide immediate feedback and scaffolding to achieve learning goals (Zimmerman, 2002). Students' reflections also indicated that repeated interaction with AI enhanced their metacognitive awareness, enabling them to recognize recurring errors, evaluate their writing strategies, and apply improvements in subsequent tasks, which aligns with the principle that reflective practice is critical for skill development in second-language writing.

Interestingly, despite overall positive feedback, some students expressed concerns regarding over-reliance on AI and the need for critical thinking in evaluating AI suggestions, indicating that while AI facilitates the writing process, it cannot replace the cognitive engagement required to construct meaningful and original content. This highlights the importance of providing clear guidelines for ethical and pedagogically sound AI usage, emphasizing that students should adapt and rephrase AI outputs rather than copy them directly, which reinforces the development of both creativity and independent thinking.

5.4. Challenges and Limitations

The integration of AI into paragraph writing practice also revealed several challenges that warrant discussion. First, technological barriers, including internet connectivity issues, limited device access, and occasional software glitches, sometimes hindered students' smooth interaction with AI tools, highlighting the need for adequate infrastructure and technical support in classrooms. Second,

some students reported cognitive overload when faced with multiple AI suggestions simultaneously, suggesting that scaffolding and guided instruction are essential to help learners filter and prioritize useful feedback without becoming overwhelmed. Third, concerns regarding academic integrity and potential over-dependence on AI emphasize the necessity of embedding ethical guidelines, plagiarism awareness, and reflective practices into the curriculum to ensure responsible use.

Moreover, the study acknowledges limitations related to sample size and scope, as it focused exclusively on 50 first-year English majors at HPU, which may limit the generalizability of findings to other contexts or proficiency levels. Additionally, the short duration of the intervention (six weeks) may not fully capture long-term effects of AI-assisted writing on students' sustained writing proficiency and independent learning strategies, suggesting that future studies should consider longitudinal designs to evaluate retention, transferability, and the evolution of students' metacognitive skills over extended periods.

5.5. Pedagogical Implications.

The findings of this study have several pedagogical implications for English writing instruction. First, AI tools can be effectively incorporated as scaffolding mechanisms that support idea generation, paragraph organization, grammar correction, and vocabulary enrichment, especially for novice learners, provided that ethical and reflective practices are emphasized. Second, instructors should provide guided scaffolding and structured feedback to help students navigate AI suggestions critically, preventing over-reliance and encouraging independent

thinking. Third, embedding AI into regular writing activities can enhance student engagement, motivation, and self-efficacy, which are crucial factors for sustained learning, while also promoting metacognitive awareness that allows learners to monitor, evaluate, and adjust their writing strategies. Finally, institutions should consider technical infrastructure, training, and digital literacy development to maximize the benefits of AI integration while minimizing potential challenges.

5.6. Summary.

In conclusion, the discussion highlights that the integration of AI tools such as ChatGPT and Grammarly into paragraph writing practice for first-year English majors at HPU led to measurable improvements in content development, grammatical accuracy, coherence, and vocabulary use, while simultaneously enhancing students' motivation, engagement, confidence, and metacognitive awareness. Although challenges such as technological limitations, cognitive overload, and ethical concerns were observed, these can be mitigated through structured guidance, reflective practices, and institutional support. The findings contribute to the broader understanding of AI-assisted language learning, providing evidence that, when used appropriately, AI can serve as a powerful pedagogical tool to support writing development, while also underscoring the importance of balancing technology use with critical thinking, creativity, and learner autonomy.

Chapter 6: Measures and Solutions

1. Introduction

The integration of Artificial Intelligence (AI) tools into English as a Foreign Language (EFL) writing instruction has gained significant attention in recent years. AI applications, such as Grammarly, ChatGPT, QuillBot, and Wordtune, provide automated grammar correction, vocabulary enhancement, idea generation, and feedback on sentence structure and coherence. These tools offer clear advantages in supporting learners' paragraph writing skills, especially for first-year English majors who often face challenges in organizing ideas, generating content, and expressing themselves accurately in English.

Despite these advantages, AI-assisted writing also presents **challenges and concerns**. Overreliance on AI suggestions, limited critical evaluation of AI feedback, technical and accessibility issues, and ethical concerns such as academic integrity are frequently reported by both learners and educators. To maximize the benefits of AI tools while minimizing potential drawbacks, it is crucial to implement **structured measures and solutions** in EFL writing classrooms. This chapter presents practical strategies for teachers, learners, and institutions to optimize AI-supported paragraph writing practice at Hanoi Pedagogical University (HPU).

2. Teacher-Guided Integration of AI Tools

2.1 Structured Instruction and Demonstration

A fundamental measure for effective AI integration is **structured teacher guidance**. Teachers should introduce AI tools gradually,

demonstrating how to use them for specific tasks, such as grammar correction, sentence rephrasing, vocabulary enhancement, and paragraph organization. By providing step-by-step instructions, instructors help students understand the appropriate scope of AI usage. For example, students can be shown how to use Grammarly to identify grammatical errors, then asked to make independent decisions on whether to accept or modify the suggested changes. Such guided instruction prevents students from **overreliance on AI** and ensures that they engage in critical thinking during the writing process.

2.2 Alignment with Learning Objectives

Another essential approach is ensuring that AI-assisted activities are **closely aligned with course objectives**. For instance, if the learning goal is to improve paragraph cohesion and coherence, teachers can design tasks where students draft paragraphs independently and then use AI tools to review sentence connections and logical flow. Aligning AI use with specific learning objectives allows learners to see the relevance of AI suggestions and prevents the tool from becoming a shortcut that bypasses cognitive engagement.

2.3 Continuous Monitoring and Feedback

Teachers should also implement **continuous monitoring of students' AI use**. Regular classroom discussions and peer review sessions focusing on AI-generated feedback can help learners critically evaluate suggestions and learn to identify appropriate corrections. By reviewing

AI-assisted revisions collectively, teachers can address common errors and misconceptions, reinforcing learners' understanding and promoting autonomous learning.

3. Student Training and Skill Development

3.1 Critical Evaluation of AI Suggestions

A major concern in AI-assisted writing is students' tendency to accept all suggestions without questioning them. To address this, learners need **training in critical evaluation of AI feedback**. Teachers can provide activities where students compare AI suggestions with their original text and discuss whether the proposed changes improve clarity, coherence, and style. For example, in a short paragraph exercise, students can highlight AI-suggested sentence rephrasing and explain why they accept, modify, or reject it. This process cultivates analytical skills and prevents mechanical reliance on AI.

3.2 Encouraging Autonomous Revision

AI tools are most effective when they **support self-directed revision** rather than replacing it. Students should be encouraged to revise their paragraphs based on AI feedback but also to identify errors independently. In practice, learners can first revise their drafts manually, then use AI to check grammar, vocabulary, or sentence structure. Finally, they can compare the AI suggestions with their own edits, fostering reflection and self-regulated learning.

3.3 Gradual Reduction of AI Dependence

To prevent overreliance, teachers can implement a **gradual reduction of AI support**. Initially, students may rely heavily on AI for grammar and vocabulary. Over time, assignments can require minimal AI assistance, encouraging learners to develop independent writing skills. This scaffolding approach ensures that AI functions as a learning aid, not a replacement for cognitive effort.

4. Technical and Resource Solutions

4.1 Access to Reliable AI Tools

For effective AI integration, institutions should provide students with access to reliable and trustworthy AI applications. HPU can consider subscribing to platforms like Grammarly Premium or providing controlled access to ChatGPT and QuillBot. This ensures that all learners, regardless of personal resources, can benefit from AI-assisted writing.

4.2 Technical Training and Support

Many students face difficulties navigating AI tools due to unfamiliarity with software or technical requirements. To overcome these challenges, universities can organize training workshops, providing step-by-step guidance on using AI tools effectively. These workshops can cover basic operations, troubleshooting, safety measures, and strategies for

integrating AI into paragraph writing practice. By reducing technical barriers, learners can focus on developing their writing skills without distraction or frustration.

5. Addressing Ethical and Academic Concerns

5.1 Clear Guidelines on AI Use

Ethical concerns and academic integrity are critical in AI-assisted writing. Teachers should provide **clear rules regarding acceptable AI usage**. For instance, AI may be allowed to provide grammar corrections and idea prompts, but generating entire paragraphs should be prohibited unless properly cited. Guidelines must clarify boundaries between support and authorship to prevent plagiarism and misuse.

5.2 Promoting Academic Integrity

In addition to guidelines, students should be educated on **responsible AI use**. Discussions about plagiarism, authorship, and proper citation practices are essential. By understanding the ethical implications of AI use, learners are more likely to integrate AI responsibly into their writing process, enhancing both skill development and moral awareness.

6. Motivational and Pedagogical Strategies

6.1 Gamification and AI-Supported Challenges

AI tools can also be used to enhance **motivation and engagement** in writing practice. Teachers can design gamified exercises, such as timed paragraph challenges where AI provides immediate feedback on grammar and vocabulary. Points or rewards can be assigned for

accuracy, coherence, and creativity. Such interactive tasks create a stimulating learning environment, encouraging learners to engage in repeated practice and gradually improving their writing skills.

6.2 Feedback Loops for Confidence Building

AI can boost learners' confidence when integrated with **teacher and peer feedback**. A feedback loop can be established: students draft paragraphs, use AI for initial feedback, revise accordingly, and then receive teacher or peer evaluation. Observing visible improvements in writing reinforces self-efficacy and encourages learners to take risks, experiment with vocabulary, and adopt more complex sentence structures.

7. Continuous Professional Development for Teachers

Teachers play a central role in guiding AI integration. **Continuous professional development** is necessary to keep educators updated on AI tools, features, and pedagogical strategies. Workshops, seminars, and online courses can equip teachers with the skills to monitor AI usage, design effective AI-supported writing tasks, and balance technology with traditional teaching methods. Well-trained teachers ensure that AI tools are used efficiently, ethically, and pedagogically soundly.

8. Encouraging Reflective Learning

Finally, reflective learning practices can enhance the effectiveness of AI-assisted writing. Students can maintain **learning journals** or reflection logs to document how AI suggestions helped improve their

paragraphs, which errors were challenging, and how their writing evolved over time. Reflection encourages metacognition, helping learners internalize lessons from AI feedback and develop **long-term writing strategies**.

9. Conclusion

Integrating AI into paragraph writing practice requires a **multifaceted approach** that balances technological support with pedagogical guidance. Effective measures include teacher-led instruction, student training in critical evaluation and autonomous revision, gradual reduction of AI dependence, technical support, clear ethical guidelines, motivational strategies, professional development for educators, and reflective learning.

When implemented thoughtfully, these solutions maximize the benefits of AI-assisted writing—such as improved grammar, vocabulary, paragraph organization, confidence, and motivation—while minimizing potential drawbacks, including overreliance, inaccurate feedback, technical barriers, and ethical concerns. At HPU, applying these strategies can ensure that AI serves as a **supportive, educational tool** that enhances students' paragraph writing skills, fosters learner autonomy, and prepares them for lifelong learning in English.

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