AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN FREQUENT AI USE AND ENGLISH PROFICIENCY IN PORTFOLIO-BASED LEARNING AMONG NON-ENGLISH MAJORS

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ABSTRACT – This study investigates the relationship between the frequency of artificial intelligence (AI) chatbot use and English proficiency improvement among non-English majors at Cao Thang Technical College in a portfolio-based learning and assessment context. Data were collected from 107 valid participants through questionnaires with closed-ended and open-ended items, as well as semi-structured interviews. The study employed a mixed-methods design that combined descriptive statistics, Pearson correlation analysis, and thematic analysis. The results showed a significant and statistically meaningful positive correlation between AI use frequency and course GPA ($r = .630$, $p < .01$). The greatest improvements were found in reading ($r = .962$) and writing ($r = .821$). Speaking showed a moderate correlation ($r = .557$), whereas listening demonstrated a weaker relationship ($r = .249$). Thematic analysis indicated that students perceived AI tools such as ChatGPT as helpful for improving grammatical accuracy, expanding vocabulary, and developing clearer ideas. However, AI support remained limited for speaking practice in authentic communicative situations, especially when quick and natural responses were required. Overall, the findings highlight the potential of AI to enhance language proficiency and provide timely feedback for learners. At the same time, the study emphasizes the need for clear pedagogical guidance to prevent overreliance, support balanced skill development, and maintain learner autonomy.

Keywords – AI use frequency, portfolio-based learning and assessment, language proficiency improvement, non-English majors, vocational college

I. INTRODUCTION

Technological advancements have reshaped education worldwide, and artificial intelligence has become a key force in language learning [1], [2]. AI tools have developed from simple grammar checkers into systems that offer personalized feedback and adaptive learning support. Among these tools, ChatGPT has received considerable attention for supporting idea generation, grammatical accuracy, vocabulary development, and overall writing quality across language skills [3], [4]. These features contribute to the development of learner independence and language awareness in both formal and informal learning contexts.

Students increasingly use AI tools for academic purposes and often perceive them as convenient learning assistants that provide instant feedback and help reduce linguistic barriers. Although concerns have been raised regarding plagiarism and overdependence, strict institutional restrictions have shown limited effectiveness, as many students continue to use AI tools independently for self-improvement [2]. Consequently, a growing body of research emphasizes guided integration rather than outright prohibition. With appropriate pedagogical guidance, teachers can foster ethical AI use, critical awareness, and digital literacy among learners [5], [4]. Furthermore, research conducted in structured educational contexts is necessary to clarify both the pedagogical strengths and the limitations of AI-supported learning [1], [3].

Alongside AI integration, portfolio-based learning has been widely recognized for its capacity to support learner autonomy, reflection, and continuous development [6], [7]. In contrast to traditional assessment approaches that emphasize final products, portfolios foreground learning processes and individual growth over time [8], [9]. This assessment approach encourages self-assessment, critical thinking, and learners' responsibility for their own learning [10], [11]. Nevertheless, despite these pedagogical benefits, portfolio-based learning remains underutilized in Vietnam, particularly within vocational education contexts [12], [13].

In response to this gap, Cao Thang Technical College in Ho Chi Minh City recently piloted portfolio-based learning in its General English program. In this initiative, portfolio learning was introduced during the first week of the course, and teachers clearly explained its purpose, structure, and assessment criteria. After each lesson, students accessed the college's online learning management system to complete a set of tasks designed to develop all four language skills. Through this ongoing process, students gradually constructed their own learning portfolios, while teachers evaluated progress based on evidence of development documented in these portfolios. In addition, teachers provided explicit guidance on the responsible use of AI-powered tools, such as ChatGPT, with the aim of promoting learner autonomy, metacognitive awareness, and digital competence [4], [1]. Although such instructional support highlights the potential value of AI within portfolio-based learning, existing research has not yet clearly examined how the frequency of AI use relates to students' perceived learning improvement in these

contexts [3], [2]. This gap suggests that a more systematic integration of AI into portfolio learning may offer meaningful benefits, as it can strengthen reflection, motivation, and learning progress [10], [5] while also helping to bridge technological potential with formative pedagogical practice [14], [15].

Based on this rationale, this study aims to investigate the relationship between the frequency of students' AI tool use and their perceived improvement in portfolio-based learning across language skills. The specific objectives of the study are as follows:

- To investigate the frequency with which non-English majors use AI tools to support various aspects of their English learning when completing portfolio-based assignments.
- To examine students' perceptions of their improvement across language skills when using AI tools.
- To identify whether a statistically significant correlation exists between these two variables: frequency of AI use and language use improvements.

Accordingly, this study seeks to answer the following questions:

- How often do students use AI tools (such as ChatGPT) to support different aspects of their English learning in portfolio-based learning?
- How do students perceive their improvement in English-use capability as a result of using AI tools in portfolio-based learning?
- To what extent does the frequency of AI tool use relate to students' English-use improvement in portfolio-based learning?

Finally, this study contributes to theoretical and practical understandings of AI in education by examining how students' digital behaviors relate to their perceived improvement in a portfolio-based context. Theoretically, it expands empirical work on AI use in language learning and deepens discussions on metacognition and learner autonomy through analysis of technology use habits and academic reflection. Practically, it provides implications for educators and administrators seeking to integrate AI into skill-based learning. Understanding how AI usage frequency affects perceived growth supports more effective pedagogy, ethical guidance, and learner support in vocational settings such as Cao Thang Technical College.

II. LITERATURE REVIEW

A. THEORETICAL FOUNDATIONS

This study is grounded in the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and Sociocultural Theory (SCT). Together, these frameworks explain how learners adopt AI tools and how such tools influence English learning outcomes.

TAM explains technology adoption through perceived usefulness and perceived ease of use. Learners are more likely to use AI tools when they believe these tools improve learning efficiency and are easy to operate [16], [17], [3], [5], [18]. In educational settings, positive perceptions of AI functions strongly predict regular use and sustained engagement.

TPB expands this explanation by including subjective norms and perceived behavioral control. Learners' technology use is influenced by peers, teachers, and institutional expectations [19], [20]. When students feel supported and capable of using AI tools, their intention to engage becomes stronger [21], [5], [4]. TPB therefore clarifies how social and contextual factors shape AI-related learning behaviors.

SCT provides a learning-oriented perspective on AI integration. Based on Vygotsky's Zone of Proximal Development, SCT views AI as a mediating tool that supports learners beyond their current competence [22]. Through guided feedback and interaction, AI functions as digital scaffolding that supports language development and learner independence [10], [23], [24], [18].

Within this theoretical integration, portfolio-based learning plays a central role. Portfolios allow learners to organize resources, track progress, and reflect on performance. Such practices support reading comprehension and long-term development [21]. Portfolio assessment also integrates multiple language skills through formative and reflective tasks. These processes strengthen goal setting, self-evaluation, and learner autonomy [25], [26], [6], [27], [7], [28], [13]. When AI is integrated, feedback becomes more adaptive and personalized, which further supports individual learning needs [1], [3], [18].

B. AI USE FREQUENCY AND ITS IMPACT ON PORTFOLIO-BASED LANGUAGE LEARNING IMPROVEMENT

Recently, research has emphasized AI use frequency as a key factor influencing learner engagement and language improvement. Regular interaction with tools such as ChatGPT supports writing fluency, idea development, and immediate feedback. Consequently, learners maintain higher levels of engagement in portfolio tasks [3], [5], [18].

In addition to cognitive benefits, frequent AI use affects learners' emotional responses. Students often report increased motivation and confidence when they use AI to prepare presentations or practice speaking activities [4], [23], [18]. These affective gains encourage continued participation in learning activities.

However, much existing research focuses on short-term or task-based outcomes. Many studies examine AI-supported feedback within isolated assignments rather than across extended learning periods [3], [5], [1]. As a result, findings mainly report gains in grammar, vocabulary, and attitudes, while evidence of sustained motivation remains limited [10], [23].

More recently, scholars have highlighted AI's role in supporting reflection and revision. AI tools help learners review drafts and identify recurring errors across portfolio tasks [1], [10], [18]. Nevertheless, few studies examine whether frequent AI use enhances learners' awareness of progress or metacognitive growth. This issue is particularly important in portfolio-based learning, which emphasizes reflection and autonomy.

In the Vietnamese context, portfolio-based learning supports independent learning and reflective engagement. Research indicates that portfolios encourage learners to take responsibility for learning outcomes [12], [29], [13]. At the core of this approach, reflection plays a central role. Portfolio tasks promote self-regulation, motivation, and reflective practice [25], [26], [7], [28]. Through self-assessment, learners monitor progress and develop ownership of learning [25], [26].

Moreover, portfolios support integrated language development. Learners practice reading, writing, listening, and speaking through interconnected tasks [30], [24], [29]. Despite these advantages, earlier portfolio studies emphasize teacher assessment over learners' self-perceived improvement [6], [13], [12]. In addition, many studies focus mainly on writing skills, with limited attention to speaking, reading, and listening development [31], [32], [33].

In contrast, recent findings suggest that AI tools enhance reflection, self-awareness, and emotional regulation within portfolio learning contexts [1], [10], [5], [18]. Therefore, consistent AI use may strengthen learners' perceptions of overall language development. In this respect, portfolios provide flexible spaces for self-expression across learning contexts [31], [34].

Given these developments, researchers increasingly stress the relationship between AI use frequency and learning outcomes. TAM and TPB highlight attitudes, perceived usefulness, and perceived control as predictors of technology use [19], [17], [3], [1], [18]. Nevertheless, many studies continue to focus on intention rather than actual usage patterns or perceived language gains.

For example, Khasawneh et al. [18] examined learners' willingness to adopt AI tools but did not analyze how frequent use influenced skill development. Consequently, understanding of iterative learning processes in portfolio contexts remains limited. Portfolio learning depends on continuous revision and engagement with feedback to support sustained progress [25], [8], [35]. From a sociocultural perspective, frequent AI interaction serves as scaffolding that supports accuracy, reflection, and learner autonomy [22].

Despite strong theoretical support, existing research still prioritizes attitudes or writing support over long-term language development [1], [5], [23]. In Vietnam, educational reforms emphasize learner autonomy and formative assessment [27], [36], [37]. However, empirical evidence on sustained AI-supported portfolio learning remains limited. Therefore, this study examines how AI use frequency influences engagement and learners' perceived English improvement in portfolio-based tasks [3], [18], [38].

C. CONCEPTUAL FRAMEWORK OF THE STUDY

This study adopts an integrated conceptual framework based on TAM, TPB, and SCT. The framework explains how learners adopt AI tools and how such use influences engagement and language development.

First, TAM identifies perceived usefulness and ease of use as core determinants of AI adoption [16], [17], [3], [5], [18]. Next, TPB emphasizes subjective norms and perceived behavioral control. Peer influence, teacher support, and institutional culture shape learners' engagement patterns [19], [20], [21], [4]. Together, these models address Research Question 1 by explaining AI use frequency.

In contrast, SCT explains how AI supports learning processes. AI functions as digital scaffolding that provides interaction, guidance, and adaptive feedback within learners' developmental range [22], [23], [24], [18]. As a result, AI-supported tasks enhance communicative competence, reflection, and learner autonomy [1], [10]. These mechanisms address Research Question 2 on sustained engagement and skill development.

Finally, these theories position portfolio-based learning as a formative approach that promotes autonomy, reflection, and integrated skill development [25], [26], [6], [27], [7], [28], [13]. Consistent AI use improves

feedback quality, reflective depth, and perceived English proficiency. This relationship directly addresses Research Question 3 [1], [10], [5], [18].

The integration of those aforementioned perspectives is synthesized in Figure 1 hereunder:

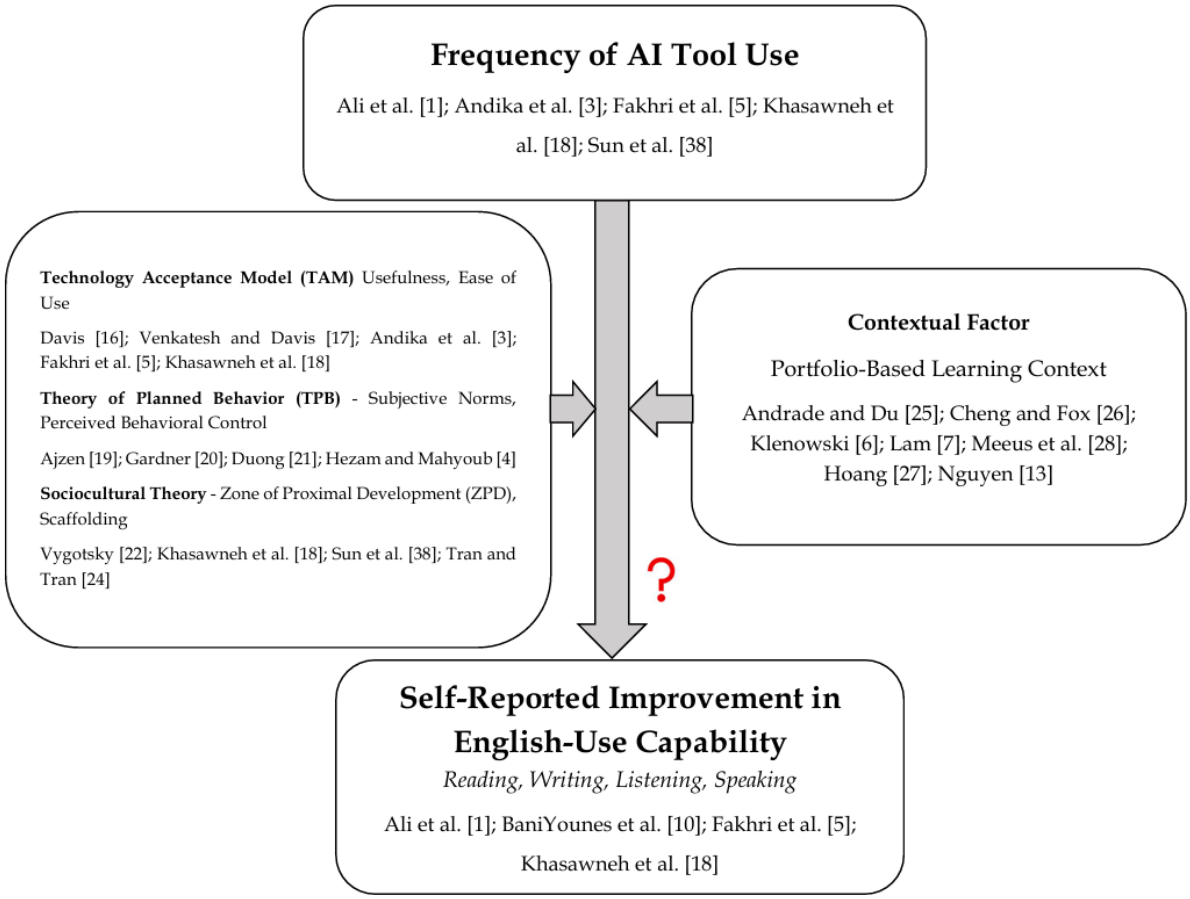

Figure 1. *Conceptual Framework of the Study*

III. METHODOLOGY

A. RESEARCH DESIGN

This study employed a descriptive correlational research design to examine patterns of association within a portfolio-based learning context. Specifically, it explored the relationship between students' frequency of AI tool use and their perceived improvement in English performance. A correlational approach was appropriate because the study aimed to determine the strength and direction of the relationship between two continuous variables. These variables were AI use frequency and perceived skill improvement. Importantly, this approach did not seek to establish causal relationships.

To enhance the explanatory power of the findings, the study adopted a mixed-methods strategy. Data were collected through a single questionnaire that combined quantitative and qualitative components. Closed-ended items were used to generate measurable data for statistical analysis. Open-ended questions were included to allow students to elaborate on their learning experiences, perceptions, and challenges when using AI tools in portfolio-based tasks. In addition, semi-structured interviews were conducted with selected participants to provide richer qualitative evidence.

This design enabled the researcher to identify observable trends in AI usage patterns. At the same time, it supported deeper contextual interpretation of how and why students engaged with AI tools during portfolio work. The integration of qualitative data helped clarify and support the quantitative results.

B. PARTICIPANTS

This study involved non-English-majored students enrolled in compulsory General English courses at Cao Thang Technical College in Ho Chi Minh City, Vietnam. These courses applied portfolio-based learning across reading,

writing, listening, and speaking skills. All participants had English proficiency at the A2 level of the CEFR, which is appropriate for vocational education contexts.

The initial participant pool consisted of 200 students from four intact classes. These classes were selected through convenience sampling because the researcher was their instructor. This selection ensured consistent exposure to both AI-supported activities and portfolio assessment procedures during the course. At the end of the semester, 115 questionnaires were collected. After removing responses with excessive missing data or uniform response patterns, 107 valid questionnaires were retained for analysis.

Although the final sample size was lower than the 132 participants recommended by Krejcie and Morgan [39] for a population of 200, it satisfied the minimum requirement of 100 participants for reliable statistical analysis [40], [41]. The sample included students from several departments, such as Mechanical Engineering Technology and Information Technology. This distribution reflects variation in academic orientation and levels of digital familiarity among participants.

Demographic variables were collected to describe the research sample rather than to predict learning outcomes (as in Table 1). These variables included biological sex, year of study, academic major, prior experience with AI tools in English learning, duration of AI use, and frequency of AI use in English courses. Prior AI use experience was included to reflect differences in students' familiarity with AI tools before the course. This variable may influence confidence in AI use, patterns of AI engagement, and effectiveness of AI-supported portfolio tasks. However, the present study did not conduct group comparisons based on prior AI experience due to design and sample size constraints.

Biological sex was collected to present sample characteristics only. It was not included in the main correlational analysis because the research focus centered on AI use frequency rather than gender-based differences. In addition, current research in Vietnamese vocational education does not provide sufficient theoretical support for treating gender as a primary predictor of AI-supported language learning outcomes.

Table 1. *Structure of Demographic Enquiries*

Item	Variable	Response Format / Options
1	Biological Sex	Categorical (Male, Female)
2	Year of Study	Fill-in-the-blank
3	Major	Fill-in-the-blank
4	Prior AI Tool Use (in English)	Categorical (Yes, No)
5	Duration of AI Tool Use	5-point scale (e.g., "Less than 1 month" to "2 years or more")
6.1	Frequency of AI Use (for English courses)	5-point scale (Never, Seldom, Sometimes, Usually, Always)
6.2	Course Scores (English A2)	5 Fill-in-the-blank fields (Average score, Listening, Reading, Writing, Speaking)

C. INSTRUMENTS

A structured questionnaire was designed to examine the relationship between AI use frequency and English learning outcomes within a portfolio-based learning context. The instrument was grounded in established theoretical frameworks and adapted from previous studies [19], [1], [25], [5], [18], [7]. This theoretical grounding ensured consistency with the research objectives and the instructional context of General English courses in vocational education.

The questionnaire consisted of closed-ended items that measured frequency of AI use for different learning purposes and perceived improvements across English language skills. It also included open-ended questions that invited students to describe their personal experiences, perceived benefits, and concerns related to AI-supported portfolio learning. These qualitative items were designed to capture contextual factors and learning processes that numerical data alone could not fully represent (See Table 2).

It is important to clarify that students were only asked to record their scores in the questionnaire to facilitate data entry and processing in SPSS. These scores were not treated as self-assessed results. All English GPA and Listening, Speaking, Reading, and Writing scores were verified by the lecturer against official examination records provided by Cao Thang Technical College. The scores were obtained from the end-of-course examinations of the General English A2 program and were assessed by instructors using standardized institutional rubrics. Self-reported data were used solely for the construct of perceived improvement and were not applied to the measurement of actual learning outcomes.

To further strengthen the qualitative dimension, semi-structured interviews were conducted after questionnaire administration. The interview protocol was developed based on recurring patterns identified in the open-ended

responses. This process allowed students to clarify their viewpoints and elaborate on experiences that could not be fully expressed in written survey answers.

To establish content validity, one expert in language education and instructional technology reviewed the questionnaire. The instrument was translated into Vietnamese to ensure clarity and accessibility for all participants. A pilot study with 20 students was conducted to assess item clarity and contextual suitability. Based on pilot feedback, item wording was revised to better reflect vocational education practices and student learning experiences.

Table 2. *Structure of the Final Questionnaire*

Section	Focus	Description/ Example Items	Format
Section 1	Demographic Information	• Collected data on gender, major, year of study, and prior AI use experience. • Students reported AI use frequency (daily - never) and entered their final grades for listening, speaking, reading, writing, and overall course average (to be cross-checked with the actual examination scores by the lecturer).	Multiple choice/ short answer
Section 2	Frequency of AI Tool Use	10 items on how often students used AI for idea generation, grammar checks, vocabulary suggestions, and skill-specific support.	5-point Likert scale (Never-Always)
Section 3	Perceived Improvement in English Skills	10 items measuring perceived gains in writing, speaking fluency, reading comprehension, vocabulary, and sentence variety.	5-point Likert scale (Strongly Disagree-Strongly Agree)
Section 4	Open-Ended Reflections	Invited responses on perceived skill improvement, AI-related benefits, challenges, and decision-making processes regarding AI use.	Open-end

D. DATA COLLECTION PROCEDURE

Data were collected through a questionnaire administered via Google Forms during regular class time between May and June 2025. The data collection took place after students had completed their final portfolio tasks. This timing ensured that participants had sufficient experience with AI-supported portfolio work before responding.

Before completing the questionnaire, students received a clear explanation of the study purpose, procedures, and ethical considerations. They were informed that participation was voluntary and that all responses would remain confidential. Informed consent was obtained prior to data collection. Students completed the questionnaire within approximately 10 to 15 minutes.

A total of 115 responses were initially collected. After screening for incomplete or inconsistent responses, 107 valid questionnaires were retained for analysis. Following the questionnaire stage, a subset of participants (12 students) was invited to take part in semi-structured interviews. These interviews were conducted to further explore issues that emerged from the open-ended questionnaire responses and to allow students to articulate their experiences and perspectives in greater depth.

E. DATA ANALYSIS PROCEDURE

This study adopted an explanatory mixed-methods approach to achieve a comprehensive understanding of the research problem. Quantitative and qualitative data were analyzed sequentially and then integrated during interpretation.

In the quantitative phase, data from closed-ended questionnaire items were analyzed using SPSS. Descriptive statistics, including means, standard deviations, and frequencies, summarized patterns of AI use and perceived improvement. Pearson correlation tests examined relationships between AI use frequency and objective exam-based scores, including GPA and Listening, Speaking, Reading, and Writing results. A significance level of 5% ($p < .05$) was applied. This phase identified association strength and direction, without asserting causality.

In the qualitative phase, data from open-ended responses and semi-structured interviews were analyzed using Braun and Clarke's six-step thematic analysis framework [42]. The process included data familiarization, initial coding, and theme construction. Themes addressed perceived benefits, challenges, contextual influences, and patterns of AI engagement in portfolio-based learning. Themes were generated inductively and then interpreted deductively in relation to the theoretical framework and prior research.

Finally, findings from both phases were integrated in the discussion section. Qualitative evidence was used to clarify and explain quantitative trends, particularly high correlation values and skill-specific differences. This integration strengthened interpretive validity and reduced reliance on self-report data alone.

F. VALIDITY AND RELIABILITY

Content validity was ensured through expert review. One bilingual expert in English language education examined the questionnaire for clarity, relevance, and alignment with the research objectives. Feedback from this review confirmed that the items adequately represented the constructs under investigation.

The pilot study supported face validity and resulted in minor wording adjustments. These revisions improved clarity and suitability for students in vocational education contexts. Reliability was assessed using Cronbach's alpha, as presented in Table 3. The results demonstrated acceptable to high internal consistency across all questionnaire scales.

Table 3. *Cronbach's Alpha value for the Constructs in the Questionnaire (Pilot Study)*

Constructs	No. Items	α
Frequency in Different Purposes of AI Tool Use While Learning General English with Portfolio-based Learning Context	10	.793
Perceived Improvements Across English Language Skills and English Use Capabilities	10	.868
Total	**20**	

These values indicate acceptable to high internal consistency. Open-ended questionnaire responses and interview data were analyzed thematically. They were excluded from intercoder reliability testing due to their interpretive nature. Instead, credibility was enhanced through careful coding, repeated comparison across responses, and integration with quantitative findings.

Overall, these procedures ensured that the instrument was valid, reliable, and appropriate for investigating the relationship between AI use frequency and language development in a portfolio-based learning environment.

IV. FINDINGS

A. FINDINGS FROM QUANTITATIVE DATA

This section presents descriptive statistics and reliability results, analyzing AI tool use frequency and students' perceived English improvement through portfolio-based learning, with mean scores, standard deviations, percentages, and Cronbach's alpha values reported.

1. FREQUENCY OF AI TOOL USE IN PORTFOLIO-BASED ENGLISH LEARNING

To address the first research objective, students indicated how frequently they used AI tools for various English learning activities within portfolio-based coursework. These activities included brainstorming, grammar and vocabulary improvement, reading and listening comprehension, speaking preparation, and revising written drafts.

Table 4. *Frequency in Different Purposes of AI Tool Use While Learning General English with Portfolio-based Learning Context*

Items	Never	Rarely	Sometimes	Often	Always	Mean	SD	Cronbach's α
S2-Q1*	0.0%	0.0%	1.9%	44.9%	53.3%	4.51	.538	**.814**
S2-Q2*	0.0%	0.0%	0.9%	51.4%	47.7%	4.47	.520	
S2-Q3*	0.0%	0.0%	3.7%	43.9%	52.3%	4.49	.572	
S2-Q4*	0.0%	0.0%	9.3%	53.3%	37.4%	4.28	.626	
S2-Q5*	0.0%	0.0%	5.6%	46.7%	47.7%	4.42	.599	
S2-Q6*	4.7%	11.2%	19.6%	47.7%	16.8%	3.61	1.044	
S2-Q7*	0.0%	0.0%	1.9%	43.9%	54.2%	4.52	.538	
S2-Q8*	0.0%	0.0%	2.8%	49.5%	47.7%	4.45	.553	
S2-Q9*	0.0%	0.0%	3.7%	44.9%	51.4%	4.48	.572	
S2-Q10*	4.7%	9.3%	13.1%	40.2%	32.7%	3.87	1.117	
Notes: *: See the Appendix for the full statement; SD = Standard deviation								

The results indicate that students frequently used AI tools across nearly all aspects of English learning in portfolio-based coursework. In particular, the most common purposes were seeking feedback (M = 4.52, SD = 0.538) and brainstorming ideas (M = 4.51, SD = 0.538), with 98% of students reporting AI use as "often" or "always," which shows deep integration into idea generation and revision processes. Moreover, high usage also appeared for vocabulary suggestions (M = 4.49) and grammar checking (M = 4.47), which reflects students' reliance on AI for linguistic accuracy and vocabulary enrichment. Similarly, frequent use for improving drafts (M = 4.45) and preparing speaking scripts (M = 4.42) indicates strong engagement in both written and oral tasks. In addition, AI-assisted reading activities were common, including summarizing texts (M = 4.28) and clarifying unknown words (M = 4.48), which emphasizes AI's supportive role in reading comprehension. However, listening-related support occurred less frequently (M = 3.61), which suggests limited AI use for auditory learning. Finally, AI-generated

quizzes showed the lowest frequency of use (M = 3.87), although over 70% of students still reported regular use. Overall, the construct demonstrated acceptable reliability (Cronbach's α = .814), confirming consistent patterns of AI use across English learning activities.

2. STUDENTS' PERCEPTIONS OF ENGLISH-USE IMPROVEMENT THROUGH AI INTEGRATION

To examine the second research objective, students were asked to evaluate the extent to which AI integration had contributed to their improvement in various English language skills. These skills included writing, speaking, reading, and listening, as well as broader aspects such as vocabulary use, sentence variety, organization, and confidence.

Table 5. Perceived Improvements Across English Language Skills and English Use Capabilities

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD	Cronbach's α
S3-Q1*	0.0%	0.0%	13.1%	45.8%	41.1%	4.28	.684	**.893**
S3-Q2*	4.7%	10.3%	28.0%	49.5%	7.5%	3.45	.944	
S3-Q3*	0.0%	0.9%	13.1%	53.3%	32.7%	4.18	.684	
S3-Q4*	6.5%	16.8%	24.3%	43.9%	8.4%	3.31	1.059	
S3-Q5*	0.0%	0.0%	12.1%	52.3%	35.5%	4.23	.653	
S3-Q6*	0.0%	0.0%	13.1%	47.7%	39.3%	4.26	.678	
S3-Q7*	0.0%	0.0%	13.1%	52.3%	34.6%	4.21	.659	
S3-Q8*	0.0%	8.4%	29.0%	46.7%	15.9%	3.70	.838	
S3-Q9*	5.6%	3.7%	32.7%	45.8%	12.1%	3.55	.954	
S3-Q10*	0.0%	0.0%	25.2%	54.2%	20.6%	3.95	.678	

Notes: *: See the Appendix for the full statement; SD = Standard deviation

As shown in Table 4, students reported generally positive perceptions of AI's role in improving English skills within portfolio-based learning. In particular, increased confidence in writing quality received the highest rating (M = 4.28, SD = 0.684), followed by clearer idea expression (M = 4.26) and better assignment organization (M = 4.23). Moreover, these perceptions align with frequent AI use for grammar and vocabulary enhancement, as students also reported improvements in revision and editing skills (M = 4.21) and reading comprehension (M = 4.18), which indicates stronger written accuracy and understanding. However, gains in oral skills were more modest, since speaking (M = 3.45) and listening (M = 3.31) received lower ratings, suggesting limited AI use for auditory practice. Similarly, sentence variety (M = 3.70) and topic-specific vocabulary (M = 3.55) showed moderate progress, which points to remaining areas for improvement. Overall, students reported a positive sense of English learning progress (M = 3.95), supporting AI's perceived usefulness in portfolio-based contexts. In addition, the construct showed excellent internal consistency (Cronbach's α = .893), which confirms reliable measurement of perceived skill improvement and reinforces the positive impact of AI integration on language learning outcomes.

3. CORRELATION BETWEEN STUDENTS' AI USAGE FREQUENCY AND THEIR ENGLISH PROFICIENCY

Pearson correlation analyses were conducted to examine the relationship between students' frequency of AI tool use and their English proficiency, as measured by overall GPA in the final exam of the course and individual skill scores in the final exam (listening, reading, writing, and speaking).

Table 6. Correlation between Students' AI Usage Frequency and Their Improvement

		GPA	Listening (Final)	Reading (Final)	Writing (Final)	Speaking (Final)
General Frequency of AI Use	***Pearson Correlation***	.630**	.249**	.962**	.821**	.557**
Frequency in Different Purposes of AI Use		.578**	.160	.873**	.735**	.514**
Length of Time Participants Have Used AI Tools		.630**	.245*	.555**	.632**	.538**

***. Correlation is significant at the 0.01 level (2-tailed).*

As shown in Table 5, students' AI usage patterns show significant positive correlations with English proficiency, although the strength of these relationships varies by skill and usage type. First, general AI use frequency showed a strong positive correlation with overall English GPA ($r = .630$, $p < .01$), which links frequent use to higher academic performance. Moreover, this relationship appeared across all language skills, with an exceptionally

strong correlation for Reading ($r = .962$, $p < .01$), a strong correlation for Writing ($r = .821$, $p < .01$), a moderate correlation for Speaking ($r = .557$, $p < .01$), and a weak but significant correlation for Listening ($r = .249$, $p < .01$). In addition, AI use frequency for specific purposes also correlated with skill improvement, showing a very strong relationship for Reading ($r = .873$, $p < .01$), a strong relationship for Writing ($r = .735$, $p < .01$), and a moderate relationship for Speaking ($r = .514$, $p < .01$). However, the correlation with Listening was not statistically significant ($r = .160$, $p > .05$), which indicates a negligible link to auditory comprehension. Furthermore, AI use duration correlated positively with all skills, showing a strong correlation with Writing ($r = .632$, $p < .01$), moderate correlations with Reading ($r = .555$, $p < .01$) and Speaking ($r = .538$, $p < .01$), and a weak but significant correlation with Listening ($r = .245$, $p < .05$). Overall, these results indicate that higher AI engagement relates positively to English proficiency, especially in Reading and Writing, while Listening shows consistently weaker effects across all usage measures.

B. FINDINGS FROM QUALITATIVE DATA

To complement the quantitative findings, qualitative data from open-ended questionnaire responses and semi-structured interviews offered deeper insights into students' use of AI in portfolio-based English learning. Thematic analysis identified three major themes: contextual factors influencing AI engagement, perceived language skill enhancement, and the role of usage frequency in shaping learning outcomes. Interview data were used to clarify, reinforce, and expand patterns observed in the open-ended responses.

1. CONTEXTUAL DRIVERS OF AI ENGAGEMENT IN PORTFOLIO-BASED LEARNING

Analysis of data from open-ended questionnaire responses and semi-structured interviews revealed that students' frequency and purposes of AI use were strongly shaped by contextual conditions rather than by habitual preference alone. These conditions mainly included task complexity, approaching deadlines, and institutional or instructor guidelines. Together, these factors influenced both when students decided to use AI and how they integrated it into their portfolio tasks.

One prominent subtheme concerned variations in AI use according to task difficulty and time pressure. Many students reported more frequent AI use when they encountered unfamiliar portfolio topics, complex prompts, or tasks that required higher levels of language control. One student stated, *"I use AI when I come across new types of tasks or complex topics that I have never written about before."* Another explained, *"As deadlines approach, I rely more on AI to check my work or generate ideas quickly."* Interview participants echoed this pattern and provided further clarification. One interviewee shared, *"When the task feels difficult and time is limited, AI becomes a practical support for me, especially to avoid mistakes."* These responses suggest that AI use often increased under cognitive and time-related pressure, which positioned AI as a form of academic assistance rather than a constant learning companion.

A second subtheme related to selective and occasional AI use based on learner intention. Some students emphasized a preference for independent work and reported turning to AI only when they encountered specific difficulties. One participant noted, *"I only use AI when I am truly out of ideas. Normally, I try to complete the assignment on my own first."* Another commented, *"If the assignment requires creativity, I use AI to brainstorm, then I write in my own way."* Interview data reinforced this cautious approach. One interviewee stated, *"I do not want to depend too much on AI, so I use it only at certain moments when I really need help."* These responses indicate that many students viewed AI as a supplementary tool rather than a replacement for personal effort, especially in tasks that required originality.

A third subtheme involved the influence of institutional policies and teacher expectations. Several students reported that external regulations shaped their decisions about AI use. One remarked, *"Some teachers do not allow AI use, so I try to avoid using it unless the teacher says it is acceptable."* Interview participants further explained that unclear or inconsistent guidance created uncertainty. One interviewee noted, *"Sometimes I am not sure how much AI use is acceptable, so I feel hesitant even when it could help me."* This finding highlights that institutional and instructional contexts played an important role in regulating students' confidence and willingness to engage with AI tools.

Overall, this theme suggests that AI engagement in portfolio-based learning was not driven solely by individual preference or curiosity. Instead, it reflected an interaction between learning demands, time constraints, and instructional regulations. These contextual drivers shaped both the frequency and manner of AI use, which helps explain the variation observed across participants.

2. PERCEIVED LANGUAGE GAINS VIA AI-SUPPORTED PRACTICE IN WRITING, VOCABULARY, AND SPEAKING

Qualitative findings indicated that students perceived AI tools as beneficial for developing multiple language skills. Data from open-ended responses and interviews consistently highlighted writing accuracy, vocabulary

development, and speaking fluency as the areas in which students noticed the most improvement. These perceived gains were closely linked to the types of AI-supported activities students engaged in during portfolio work.

One subtheme focused on improvements in writing accuracy and organization. Many students reported that AI assisted them with grammar correction, sentence structure, and error detection. One participant stated, *"Every time I write an assignment, I use AI to check grammar and improve sentence structure. It helps me avoid many common mistakes."* Others emphasized gains in text organization and coherence. One student explained, *"After using AI, I can organize my ideas more logically. I also learn how to use linking words better."* Another shared, *"AI helps me save time. It gives me an outline, and I follow it to develop my content."* Interview responses supported these perceptions. One interviewee noted, *"AI shows me clearer sentence patterns, so my writing feels more structured and easier to revise."* These accounts suggest that AI functioned as a form of immediate feedback that supported both accuracy and organization in writing tasks.

A second subtheme related to vocabulary learning and speaking practice. Several students described learning new vocabulary through contextualized examples rather than isolated word lists. One participant noted, *"AI helps me learn new words in specific contexts, so I remember them more easily."* Others reported using AI for speaking practice, particularly for pronunciation and fluency. One student stated, *"I often practice speaking with AI. It responds immediately, so I can notice my mistakes."* An interviewee added, *"Practicing speaking with AI makes me more confident when I speak English in class."* These responses indicate that AI supported repeated exposure and practice, which students perceived as helpful for oral skill development.

Overall, students viewed AI tools as supportive learning partners rather than passive answer providers. They believed that AI contributed to improvements across several language domains. However, the level of perceived benefit varied according to how actively and purposefully the tools were used.

3. CONSISTENCY MATTERS: FREQUENCY OF AI USE AND ITS INFLUENCE ON LANGUAGE DEVELOPMENT

Qualitative evidence indicated that perceived language improvement was closely linked to usage frequency and consistency. Both open-ended questionnaire responses and interview data emphasized that regular and sustained engagement with AI produced stronger learning effects than sporadic use.

One subtheme highlighted greater gains among regular AI users. Students who reported frequent interaction with AI described gradual and noticeable improvement in their English performance. One participant stated, *"I use AI to review every writing assignment, and I can see my grammar improving over time."* Another explained, *"The more I use it, the easier it becomes to remember vocabulary patterns."* Speaking development was also mentioned. One student said, *"I practice speaking with AI almost every day. I can respond faster in English now."* Interview participants confirmed this pattern. One interviewee remarked, *"Regular use helps me build habits, not just finish tasks."* These responses suggest that consistent AI use supported skill reinforcement and learning continuity.

A contrasting subtheme involved limited improvement among occasional users. Some students admitted that infrequent use reduced the learning impact of AI. One participant reflected, *"Because I rarely use AI, I do not feel a big change in my English."* Practical concerns also discouraged consistent use. One student noted, *"Sometimes AI gives unclear answers, so I use it less often."* Interview data revealed similar concerns, especially related to trust and guidance. One interviewee explained that uncertainty about accuracy made them hesitant to rely on AI regularly.

This theme indicates that students recognized the potential value of AI tools for language development. At the same time, they understood that sustained and purposeful use was necessary for meaningful improvement. Technical limitations, limited experience, and unclear instructional guidance sometimes constrained both frequency of use and learning outcomes.

V. DISCUSSION

This section discusses the key findings in relation to existing theories and literature, interpreting how AI-supported portfolio learning influenced students' engagement, language development, and learning outcomes.

A. FREQUENCY AND SITUATIONAL USE OF AI TOOLS IN PORTFOLIO-BASED LEARNING

Students' frequent reliance on AI for brainstorming and corrective feedback can be understood through the characteristics of portfolio-based learning, which emphasizes repeated drafting, revision, and formative feedback. This finding aligns with portfolio literature highlighting the importance of iterative learning cycles and continuous feedback in supporting development [25], [26], [7]. Moreover, the pattern is consistent with the Technology Acceptance Model, as students tended to adopt AI tools that they perceived as both useful and easy to operate [3], [5], [18].

The reduction of cognitive load for A2-level vocational learners further explains this frequent usage. By offering immediate lexical and grammatical feedback, AI enabled students to devote greater attention to idea generation rather than surface-level language form. This outcome supports findings by [1], who observed that AI-assisted feedback can lower cognitive demands and promote more strategic engagement in portfolio-based tasks. From a sociocultural perspective, AI functioned as a mediating scaffold within learners' Zone of Proximal Development, supporting performance beyond current independent ability [22], [23], [18].

However, the limited learner autonomy observed requires further explanation. Many students primarily used AI to fulfill teacher expectations or meet assignment deadlines instead of pursuing personal learning objectives. This contrasts with studies reporting stronger autonomy and positive learning washback in well-scaffolded portfolio environments [27], [13]. In addition, the tendency to engage with AI mainly at the beginning and final stages of tasks echoes concerns raised by [1], who noted that heavy reliance on external AI feedback may restrict sustained reflection throughout drafting cycles.

Overall, the finding that AI enhanced learning efficiency is consistent with prior research on AI-supported portfolio learning [1], [10]. Nevertheless, the results indicate that without explicit instruction in reflective practices, AI use may contribute more to task completion than to the development of independent learning capacity.

B. NON-ENGLISH MAJORS' LANGUAGE PROFICIENCY DEVELOPMENT WITH AI SUPPORT

The most substantial improvements were observed in writing and reading skills. These results align with previous studies reporting that portfolio-based learning and AI-supported feedback enhance linguistic accuracy, organization, and vocabulary development [10], [26], [7], [24]. Importantly, these improvements were identified through official end-of-course examination scores rather than student self-evaluation, which strengthens the objectivity of the findings. These gains reflect the combined effects of instant AI feedback and portfolio tasks that emphasize drafting, revision, and reflection. Together, these processes increased awareness of linguistic form and textual coherence.

These findings reaffirm evidence that portfolio cycles support writing quality and vocabulary growth [25], [26], [7]. They also extend Duong's [21] discussion of e-portfolios and reading comprehension by showing how AI supports clarification, summarization, and guided comprehension during reading tasks. The use of standardized course assessment results helps ensure that observed gains are not solely influenced by learners' subjective perceptions of progress.

In contrast, improvements in speaking and listening were modest. This pattern aligns with portfolio research that reports limited oral development when interaction is not systematically embedded in learning tasks [31], [32], [13]. In this study, students mainly used AI for script preparation and transcription tasks rather than interactive oral practice. Text-based AI supported accuracy more than fluency due to limited prosodic modeling and conversational exchange. These patterns were also reflected in formal speaking and listening assessment scores, which showed smaller gains than reading and writing.

C. RELATIONSHIP BETWEEN FREQUENCY OF AI USE AND LANGUAGE GAINS

The findings reveal strong and statistically significant relationships between AI use frequency and academic outcomes, including GPA ($r = .630$), writing scores ($r = .821$), and reading scores ($r = .962$). These academic outcomes were derived from official final examinations graded by instructors using standardized course rubrics, rather than from students' self-reported evaluations. These results align with portfolio-based learning research that emphasizes sustained engagement and iterative practice as key contributors to literacy development [25], [7], [28]. However, the exceptionally high coefficients for reading and writing require careful interpretation.

One explanatory factor concerns task alignment. Portfolio-based reading and writing tasks closely mirrored final assessment formats. These tasks included comprehension questions, summarization, short paragraph writing, and guided paragraph development. Students also reported frequent AI use for drafting and revising texts similar to examination tasks. As a result, high correlations may reflect task familiarity and procedural efficiency rather than deeper inferential ability. This alignment may partially explain why objective test scores showed particularly strong associations with AI use frequency.

Additional mediating factors may also have influenced both AI use frequency and achievement. Learner motivation, prior study habits, digital literacy, and responsiveness to instructional expectations may have encouraged frequent AI use and higher performance. These influences are consistent with recent AI-assisted learning research [3], [5], [18]. Therefore, the correlations indicate strong association rather than causal impact.

Unlike studies that emphasize learners' perceived improvement or reflective self-assessment measures [1], [24], this study incorporated objective examination scores. Specifically, self-reported data were used only to capture

students' perceptions and were not included in the calculation of GPA or skill-based performance outcomes. In addition, the statistical analysis revealed a moderate but significant relationship between AI use frequency and speaking performance ($r = .557$, $p < .01$). This finding suggests that, although the association was not as strong as that observed for reading and writing, regular AI engagement may gradually reinforce linguistic accuracy and lexical development in speaking tasks.

Listening performance showed weak relationships with AI use ($r = .249$; $r = .160$, $p > .05$). This pattern suggests limited effectiveness of AI-supported tasks for auditory comprehension within the current instructional design. The imbalance across skills highlights the importance of task type, timing, and modality of AI support.

D. UNEXPECTED RESULTS AND IMPLICATIONS

Two unexpected findings require careful theoretical and pedagogical consideration.

The first concerns the near-perfect correlation between AI use frequency and reading performance, which diverges from earlier portfolio-based classroom studies [21], [7], [24]. A plausible explanation lies in the strong correspondence between AI-supported activities and assessment task formats. AI-generated summaries and translations often mirrored the structure and cognitive demands of reading tests. Consequently, higher scores may reflect improved task handling rather than deeper comprehension processes. This raises concerns about construct validity, as reading scores may not fully capture inferential or evaluative understanding.

To address this issue, future portfolio designs should incorporate reading tasks that emphasize interpretation, critical evaluation, and inference. Such tasks are less easily completed through AI assistance and may provide a more authentic measure of reading ability. This adjustment would also reduce the likelihood of inflated correlations that result from task similarity rather than skill development.

The second unexpected finding involves the limited improvement in listening skills. This result aligns with Vietnamese portfolio studies that report weak listening gains when portfolios emphasize written reflection over multimodal engagement [31], [32], [13]. In the present study, AI use for listening focused mainly on post-task correction and transcript checking. From a sociocultural perspective, effective scaffolding should occur at the point of difficulty and should gradually decrease as learners gain control [22], [10]. Since AI support occurred after task completion, it did not sustain listening development over time.

Pedagogically, AI tools should support pre-listening and guided listening stages through prediction tasks, vocabulary activation, and focused listening prompts. Such integration may help align AI support with sociocultural principles and improve listening outcomes within portfolio-based instruction.

In summary, the unexpected results highlight both the potential and the limitations of AI integration in portfolio assessment. While AI use can amplify learning outcomes when task alignment is strong, it may also obscure deeper skill development if assessment design lacks sufficient cognitive challenge. Future research should adopt experimental or longitudinal designs to control mediating variables and to clarify the causal mechanisms underlying AI-supported learning.

VI. CONCLUSION

This study examined the relationship between Vietnamese college students' frequency of AI tool use and English learning outcomes within a portfolio-based learning framework. Analysis of data from 107 non-English-majored students revealed significant positive correlations between AI use frequency, GPA, and performance gains in reading, writing, and speaking. These findings indicate strong associations between AI engagement and academic outcomes when AI is embedded in structured portfolio tasks.

A key strength of this study lies in the combination of objective and subjective data sources. Academic outcomes were measured using official end-of-course examination scores, including GPA and skill-based results, while self-reported data were limited to perceived improvement variables. This combination helps reduce self-report bias and enhances the credibility of the conclusions.

Despite these associations, the study does not claim direct causality. High correlation coefficients reflect robust relationships but do not confirm AI as the sole cause of improvement. Other factors, including learner motivation, prior study habits, digital literacy, instructional expectations, task alignment, and prior AI experience, may have influenced both AI use frequency and performance.

Students reported frequent AI use for idea generation, grammar checking, vocabulary expansion, and pronunciation support. Students with prior AI experience tended to apply more strategic use patterns, while less experienced users relied more on answer checking. These patterns suggest that AI can support autonomy and

confidence when use is guided by clear instructional goals. At the same time, challenges included overreliance, occasional inaccuracies, and limited critical evaluation.

A. RESEARCH IMPLICATIONS

These findings imply clear pedagogical actions for English instruction in vocational colleges, where students are non-English majors and often focus on practical learning outcomes. Teachers should integrate AI literacy explicitly into classroom instruction, with emphasis on evaluation of AI output, revision skills, and responsible use aligned with course objectives. Such integration helps students use AI as a learning support rather than as a shortcut.

Instruction should also address differences in prior AI experience through targeted guidance. Students who are less familiar with AI tools may require structured modeling and step-by-step support, while more experienced users may benefit from guidance on strategic and critical use. This differentiated approach is particularly relevant in vocational contexts, where digital familiarity varies across majors.

At the institutional level, ethical and pedagogical guidelines are essential to ensure consistent AI use across courses. Professional development programs should equip teachers with practical strategies for integrating AI into portfolio-based assessment. Portfolio design should also include interactive AI-supported tasks for listening and speaking, such as guided listening preparation, pronunciation feedback, and structured role-play. These task types better reflect communicative demands in vocational and workplace settings.

B. RESEARCH LIMITATIONS

Several limitations shape the interpretation of the findings. The study relied partly on self-reported perception data, used convenience sampling, and applied a cross-sectional correlational design. These factors limit causal interpretation of the relationships observed.

In addition, the instructor also served as the researcher, which may have introduced potential bias. This issue has been acknowledged explicitly and discussed in the Limitations section to ensure transparency. Gender and prior AI experience were treated as descriptive variables rather than analytical predictors. This choice aligned with the research focus but restricted subgroup comparisons. Future research should apply longitudinal or experimental designs to address these constraints.

C. DIRECTIONS FOR FUTURE STUDIES

Future studies may examine prior AI experience as a mediating or moderating variable between AI use frequency and language improvement. Such analysis may clarify whether learning gains depend more on usage strategies than on frequency alone. Further research may also explore gender effects through comparative or regression analysis when sample size permits.

In addition, future studies may adopt technology-enhanced designs that reflect recent advances in AI. These may include speech-based AI tools, adaptive feedback systems, or multimodal AI applications to support listening and speaking development in vocational English courses. Such directions would contribute to more comprehensive and context-sensitive AI integration in vocational higher education.

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IX. APPENDIX

Detailed content of the items in "Section 2" and "Section 3" of the Questionnaire:

Section 2: Frequency in Different Purposes of AI Tool Use While Learning General English with Portfolio-based Learning Context

No.	Label	Item
1	S2-Q1	I use AI tools to help brainstorm ideas for my English assignments.
2	S2-Q2	I rely on AI tools to check and correct my grammar during writing tasks.
3	S2-Q3	I use AI tools to suggest more accurate or varied vocabulary for my writing.
4	S2-Q4	I ask AI tools to summarize reading texts I don't understand.
5	S2-Q5	I use AI tools to create speaking scripts or outlines for presentations or dialogues.
6	S2-Q6	I asked AI to listen to and write transcripts for the audio clips so I could understand the lessons better.
7	S2-Q7	I ask AI tools for comments (feedback) before submitting my assignments.
8	S2-Q8	I use AI tools to reorganize, rewrite, or expand content when improving older drafts in my portfolio.
9	S2-Q9	I use AI tools to translate or clarify unfamiliar English words or sentences.
10	S2-Q10	I explore AI-generated questions or quizzes to test my understanding.

Section 3: Perceived Improvements Across English Language Skills and English Use Capabilities

No.	Label	Item
1	S3-Q1	I have become more confident in the quality of my English writing assignments through using AI tools.
2	S3-Q2	My speaking skills have improved thanks to practicing with the content and outlines generated by AI.
3	S3-Q3	I understand reading texts more easily when I use AI tools for support.
4	S3-Q4	I understand listening materials better thanks to the transcripts generated by AI (it helps me identify the words I couldn't catch clearly in the audio).
5	S3-Q5	AI tools help me organize and structure my ideas better in assignments.
6	S3-Q6	I can express my thoughts more clearly in English after using AI tools.
7	S3-Q7	I notice improvement in how I revise and edit my work due to AI suggestions.
8	S3-Q8	I have developed better sentence variety and fluency in my English writing.
9	S3-Q9	My ability to use vocabulary for specific topics has improved by using AI tools.
10	S3-Q10	Overall, I have made noticeable progress in my English skills from using AI tools regularly.

Semi-Structured Interview questions

1. Can you describe specific situations in which you chose to use AI tools while completing your portfolio tasks?

(Follow-up prompts: task difficulty, unfamiliar topics, deadlines, types of assignments)

2. How did your teacher's instructions or institutional policies affect your decision to use, limit, or avoid AI tools?

3. In what ways did AI tools support your writing, vocabulary development, or speaking practice in this course?

(Follow-up prompts: grammar, organization, confidence, fluency)

4. Do you believe that the frequency of your AI use influenced your English improvement? Why or why not?

(Follow-up prompts: regular vs. occasional use, specific examples of improvement progress)

5. What challenges or limitations did you experience when using AI tools for portfolio-based learning?

(Follow-up prompts: inaccurate responses, overdependence, uncertainty)

6. What suggestions would you offer to help students use AI more effectively in portfolio-based English courses?

NGHIÊN CỨU VỀ MỐI QUAN HỆ GIỮA TẦN SUẤT SỬ DỤNG CHATBOT TRÍ TUỆ NHÂN TẠO (AI) VÀ MỨC ĐỘ CẢI THIỆN NĂNG LỰC SỬ DỤNG TIẾNG ANH CỦA SINH VIÊN KHÔNG CHUYÊN NGỮ KHI ĐƯỢC ĐÁNH GIÁ BẰNG HỒ SƠ HỌC TẬP CÁ NHÂN

Nguyễn Lê Anh Khoa, Trần Quang Bảo Phúc, Trần Vũ Diễm Thúy

TÓM TẮT – Nghiên cứu khảo sát mối quan hệ giữa tần suất sử dụng chatbot trí tuệ nhân tạo (AI) và mức độ cải thiện năng lực tiếng Anh của sinh viên không chuyên ngữ tại Trường Cao đẳng Kỹ thuật Cao Thắng khi được tham gia học tập và đánh giá qua hồ sơ học tập cá nhân (portfolio-based learning). Nghiên cứu thu thập dữ liệu thông qua bảng hỏi kết hợp dữ liệu định lượng (câu hỏi đóng) và đinh tính (câu hỏi mở). Dữ liệu được thu thập từ 107 người tham gia hợp lệ thông qua bảng hỏi gồm các câu hỏi đóng và mở, kết hợp với phỏng vấn bán cấu trúc. Nghiên cứu áp dụng thiết kế phương pháp hỗn hợp, kết hợp thống kê mô tả, phân tích tương quan Pearson và phân tích theo chủ đề. Kết quả cho thấy tần suất sinh viên sử dụng AI có tương quan dương đáng kể và có ý nghĩa thống kê với điểm GPA của học phần ($r = .630$, $p < .01$). Mức cải thiện rõ rệt nhất được ghi nhận ở kỹ năng Đọc ($r = .962$) và Viết ($r = .821$), trong khi kỹ năng Nói ($r = .557$) và Nghe ($r = .249$) có tương quan thấp hơn. Kết quả phân tích chủ đề cho thấy sinh viên nhìn nhận các công cụ AI như ChatGPT giúp cải thiện ngữ pháp, tăng vốn từ vựng và hình thành ý tưởng rõ ràng hơn. Tuy vậy, AI chưa thực sự hỗ trợ hiệu quả cho việc luyện nói trong các tình huống giao tiếp thực tế, đặc biệt khi người học cần phản xạ nhanh và giao tiếp một cách tự nhiên. Nhìn chung, nghiên cứu cho thấy tiềm năng của AI trong việc cải thiện năng lực ngôn ngữ và mang lại phản hồi nhanh chóng cho người học. Tuy nhiên, việc sinh viên sử dụng AI cần có hướng dẫn rõ ràng để tránh tình trạng phụ thuộc quá mức, cũng như để đảm bảo sự phát triển ngôn ngữ một cách tự nhiên và duy trì tính tự giác của người học.

Từ khóa – Tần suất sử dụng AI, Hồ sơ học tập cá nhân, Cải thiện năng lực ngôn ngữ, Sinh viên không chuyên ngữ, Trường Cao đẳng đào tạo nghề.

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