Scaffold or Shortcut? How Non-English-Major Students Use ChatGPT for Grammar Learning

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ABSTRACT

The rise of ChatGPT as a popular tool among EFL learners has become a subject in recent studies. Preliminary classroom observations reveal that many students use ChatGPT to scan texts to retrieve immediate answers to grammar-related tasks rather than engaging in analytical and reflective practice. Moreover, while scholarship mainly explores the impacts of ChatGPT on writing and vocabulary learning of English majors, there are limited studies on how ChatGPT is actually used by non-English-major students in grammar learning. To fill this gap, this study investigates how students perceive and actually use ChatGPT as a scaffolding for understanding or a shortcut for task completion. Drawing upon the Technology Acceptance Model (TAM) and social constructivism (Vygotsky, 1978), a questionnaire was delivered to 239 non-major university students. Cronbach's alpha, descriptive statistics, and regression analyses were used to analyze data. Findings indicate that students hold a positive perception of ChatGPT's ease of use and usefulness. Perceived usefulness predicts not only students' intention to use ChatGPT and their tendency to engage with explanations and learning support, but also students' reliance on ChatGPT for obtaining quick answers and completing tasks. These findings reveal that ChatGPT has dual impacts on students' constructive and convenience-driven learning. Pedagogical guidance is needed to foster critical and reflective engagement with ChatGPT.

Keywords: ChatGPT, grammar learning, AI in education, TAM, social constructivism

Introduction

Artificial Intelligence (AI) has experienced rapid development over the last decade, bringing remarkable changes to language education. AI systems are defined as tools capable of learning, reasoning, predicting, and planning (Patrick et al., 2025). Among these tools, ChatGPT has received more attention due to its capacity to process and generate information rapidly and efficiently, and to respond in natural language (Zhai, 2022). In EFL education, students are

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more likely to utilize ChatGPT as a supplementary learning tool. They generally hold positive perceptions of ChatGPT as it's accessible, interactive, and has the potential to support autonomous learning (Ngo, 2023; T.V.N. Nguyen, 2024), and is useful for various aspects of English learning, such as grammar, vocabulary, pronunciation, and writing (Pham & Pham, 2025). Similarly, in the Vietnamese context, Duong and Nguyen (2024) found that Vietnamese university students perceived AI as a useful source to support their language development and independent learning. These characteristics make ChatGPT a supportive tool for students beyond classroom instructions.

Regarding grammar, it remains the foundation of language instruction, but it is also a challenging area for many EFL learners, particularly non-English-major students who have limited instruction and often lower motivation toward language learning. While previous studies explored the positive attitudes toward ChatGPT use in learning (Ng et al., 2025; Pham & Pham, 2025) and the impacts of ChatGPT in terms of giving instant feedback, accessible grammar explanation, and customized practice exercises (Gunawan & Susanto, 2025; Phieanchang, 2024), many of them focused on English-major students or on skills such as writing and vocabulary. As a result, perceptions of non-English majors' use of ChatGPT in a grammar learning context are limited.

Moreover, recent studies have raised concerns about students' reliance on AI tools. ChatGPT can answer students' questions quickly, but it may also suggest superficial responses rather than reflective ones (T.V.N. Nguyen, 2024; Nopita & Dangin, 2025). This concern has been further explored by Kucuk (2024), who found that AI-generated content may negatively affect learners' critical thinking skills and foster dependence on the tool. Additionally, the preliminary observation similarly revealed that non-English-major students engaged in ChatGPT for both reflective behaviors, such as seeking explanations and revising grammar structures - constructive use, and superficial behaviors such as copying answers without critical engagement - shortcut use.

In general, there is a need for research that focuses not only on non-English-major students' perceptions of ChatGPT in the grammar classroom context, but also their actual usage patterns. Addressing this gap, this study explores non-English majors' perceptions of ChatGPT and their grammar-related usage behaviors, regarding constructive and shortcut use. Drawing upon the TAM framework and Vygotsky's (1978) sociocultural framework, it also examines the extent to which Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI) predict the two patterns of usage, Constructive Use (CU) and Shortcut Use (SU), among students at a public university in Ho Chi Minh City. The findings aim to provide insight into the pedagogical and practical suggestions for instructors to promote critical engagement of ChatGPT in EFL grammar learning.

Literature review

ChatGPT in EFL Learning

Artificial Intelligence (AI) refers to systems or tools that are capable of resembling human-like behaviors, such as learning, reasoning, prediction, and planning (Patrick et al., 2025), so it has brought significant changes to second language education, particularly in English as a Foreign Language (EFL) contexts. The transformer architecture underlying modern large language models was first introduced by Google researchers in 2017 (Vaswani et al., 2017). Building on this foundation, OpenAI subsequently developed the Generative Pre-trained Transformer (GPT) family of models, which embeds world knowledge and processes extensive textual data

to solve multiple tasks (Zhao et al., 2026). Among AI-driven tools, ChatGPT has received remarkable attention because of its ability to process information and provide responses rapidly in natural language (Zhai, 2022), as well as solve mathematical problems, track the context of extended dialogues, and align well with human values (Zhao et al., 2026).

Because of the conversational interface and accessibility, ChatGPT has been utilized as a support tool for language learning. Previous studies have reported several positive impacts of ChatGPT in EFL learning. Research suggests that it is effective in improving students' overall writing skills, vocabulary, personalization, and supportive learning environment (Lai & Trinh, 2025; Luu & Bui, 2025). In classroom settings, teachers also acknowledge the positive effects of ChatGPT in teaching language, particularly by tailoring ESP reading passages to accommodate different students' levels, offering real-time translation support, and generating examples and explanations, which create an enjoyable, dynamic, and engaging learning environment (T.V.N. Nguyen, 2024). Additionally, lecturers also viewed AI as beneficial for grammar correction, personalized learning, and learner autonomy (Nguyen, 2026).

Despite these advantages, some concerns about using ChatGPT in assisting learning have been raised. Regarding reliability, several studies have noted that ChatGPT may produce inaccurate, misleading, or irrelevant responses (Luu & Bui, 2025; T.V.N. Nguyen, 2024; Pham & Pham, 2025). Additionally, regarding over-reliance on ChatGPT, studies demonstrate that both teachers and students increasingly depend on ChatGPT for task completion, leading to reduced critical thinking, autonomy, and grammatical confidence (Gunawan & Susanto, 2025; Kucuk, 2024; T.V.N. Nguyen, 2024). Ethical issues, including plagiarism, academic dishonesty, and data privacy, have also been identified as potential challenges in AI-assisted learning environments (Patrick et al., 2025; Pham & Pham, 2025).

Overall, considerable benefits and concerns about leveraging ChatGPT in education are the main focus of many studies, while actual practices and learning behaviors have received little attention. This limitation points to the need for more investigations into how EFL learners interact with ChatGPT in practice.

ChatGPT in Grammar Learning

Grammar competence plays a crucial role in EFL learning. Some people refer to it as syntax, or broadly to both syntax and morphology, or even the whole language system, including sounds, words, and sentences (Börjars & Burridge, 2019). In recent years, AI-driven tools have supported grammar learning by helping students solve grammar-related tasks.

Many studies demonstrate the advantages of the application of ChatGPT to assist with grammar explanations, sentence correction, and example generation. It is reported that university students used ChatGPT to support multiple aspects of English learning, including grammar, as a helpful tool for understanding language structures (Behforouz & Ghaithi, 2024; Pham & Pham, 2025). In addition, immediate and personalized responses are another benefit of ChatGPT in grammar learning. Students can input their grammar questions and receive explanations and examples instantly (Ngo, 2023; Nguyen, 2024). Moreover, ChatGPT allows learners to practice grammar at their own pace, which may enhance learner autonomy and confidence (Pham & Pham, 2025).

On the other hand, some cautions have been raised. Singh et al. (2023) warned that if students have excessive reliance on the tool, it can lead to misuse. A study conducted by Kucuk (2024) demonstrated that ChatGPT-based grammar instruction yields higher success rates (26.53%) compared to the teacher-centered traditional method (8.86%). Despite students' general satisfaction, ambiguous responses, insufficient feedback, and a reduction in students' critical

thinking are some concerns related to ChatGPT use. Furthermore, ChatGPT may generate inaccurate or incomplete grammatical explanations, so learners are required to critically evaluate its responses (Nopita & Dangin, 2025). Additionally, students may depend on ChatGPT to correct their grammatical errors or complete tasks without thoroughly understanding the rules, which reduces analytical thinking and reflective learning, particularly when ChatGPT is primarily used to obtain quick answers (Kucuk, 2024).

In general, some students may use ChatGPT to deepen their understanding of grammar through its explanations, examples, or practice, while others may use it for task completion instead of comprehension. These findings suggest that ChatGPT may function as either a learning scaffold or a shortcut in grammar learning, depending on how students engage with the tool. Empirical studies that examine how students actually use ChatGPT in grammar learning contexts remain limited, addressing the gap by exploring learners' perceptions and usage patterns of ChatGPT.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), is one of the most widely applied frameworks to explore users' perceptions and attitudes towards AI in educational settings. This model explains how users' thinking influences their intention to continue using the technological tools.

The model identifies two drivers of Behavioral Intention (BI), which reflects students' willingness to continue using ChatGPT for future learning purposes. First, Perceived Ease of Use (PEOU) refers to users' belief in the ease of operating a technological system (Davis, 1989). In the context of EFL, M. A. Nguyen (2024) noted that easy accessibility influences students' willingness to utilize the tool in their learning. Similarly, Ng et al. (2025) also found that easy interaction supported students' engagement with AI tools to get quick clarification and assistance. Secondly, Perceived Usefulness (PU) describes the degree to which learners believe that a system could improve their learning performance (Davis, 1989). Previous studies indicate that unless a student perceives the technology as useful, their motivation to adopt it will decrease (Ngo, 2023; Pham & Pham, 2025). In the TAM model, PU is considered the most significant factor in motivating usage intention, rather than ease of use alone (Davis, 1989). Albayati (2024) concluded that students hold favorable attitudes towards ChatGPT when their perceptions of its usefulness and ease of use are positive.

Overall, TAM is useful for explaining why learners accept ChatGPT, but it mainly shows the adoption of the tool rather than actual learning behaviors. In grammar learning contexts, non-English-major students may employ ChatGPT in different ways, from retrieving quick answers to reflective feedback. Therefore, this highlights the need to extend TAM by examining not only learners' intentions but also their actual usage in grammar classrooms.

Conceptual Framework

To fill in the gap presented above, this study integrates TAM with social constructivism as informed by Vygotsky (1978), who conceptualizes learning as an active process in which learners construct their understanding through interaction, reflection, and meaning-making. While shortcut use is not a construct derived directly from Vygotsky's framework, the distinction between superficial task completion and active meaning construction is drawn on the difference between surface and deep approaches to learning (Marton & Säljö, 1976). From this perspective, the value of ChatGPT is less dependent on how frequently learners use the tool and more on how they interact with it.

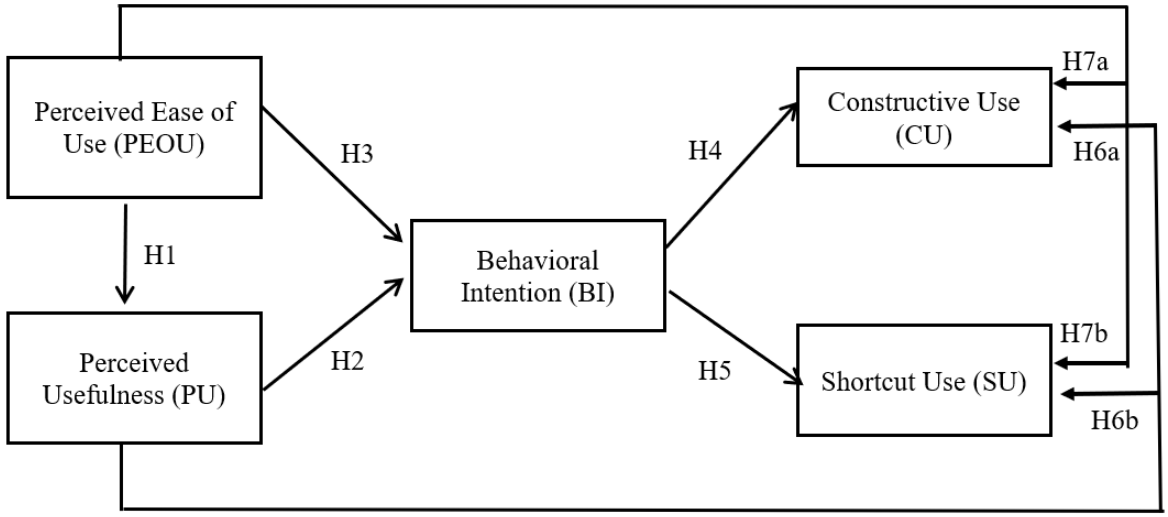
Within this framework, students' grammar-related use of ChatGPT is conceptualized in two patterns: constructive use and shortcut use. The shortcut use refers to efficiency-driven

behaviors, such as copying answers directly or focusing on instant feedback rather than deep understanding (Gunawan & Susanto, 2025; Nopita & Dangin, 2025). On the other hand, constructive use refers to reflective behaviors in which learners negotiate meaning with ChatGPT and ask it to generate examples and explanations for its responses (Luu & Bui, 2025; T.V.N. Nguyen, 2024; Pham & Pham, 2025).

By integrating TAM and social constructivism, this framework offers a broader understanding of the use of ChatGPT among non-English-major students in grammar classroom settings. While TAM explains students' perceptions and intention to use ChatGPT, social constructivism provides insight into how students engage with the tool. Based on this conceptual framework, seven proposed hypotheses are listed below:

Fig 1.

The conceptual framework of the study



H1: Students' perceived ease of use of ChatGPT positively predicts their perceived usefulness of ChatGPT in grammar learning.

H2: Students' perceived usefulness of ChatGPT positively predicts their behavioral intention to use ChatGPT for grammar learning.

H3: Students' perceived ease of use of ChatGPT positively predicts their behavioral intention to use ChatGPT for grammar learning.

H4: Students' behavioral intention to use ChatGPT positively predicts constructive use of ChatGPT in grammar learning.

H5: Students' behavioral intention to use ChatGPT positively predicts shortcut use of ChatGPT in grammar learning.

H6a: Students' perceived usefulness of ChatGPT positively predicts constructive use of ChatGPT in grammar learning.

H6b: Students' perceived usefulness of ChatGPT positively predicts shortcut use of ChatGPT in grammar learning.

H7a: Students' perceived ease of use of ChatGPT positively predicts constructive use of ChatGPT in grammar learning.

H7b: Students' perceived ease of use of ChatGPT positively predicts shortcut use of ChatGPT in grammar learning.

Research Questions

Guided by the conceptual framework and hypotheses, this study addresses the following research questions:

RQ1: What are non-English-major students' perceptions of using ChatGPT in grammar learning in terms of perceived ease of use, perceived usefulness, and behavioral intention?

RQ2: To what extent do non-English-major students engage in constructive versus shortcut use of ChatGPT in grammar learning?

RQ3: To what extent do perceived ease of use, perceived usefulness, and behavioral intention predict constructive and shortcut use of ChatGPT in grammar learning?

Methods

Pedagogical Setting & Participants

This study was conducted at a public university in Ho Chi Minh City, where English is taught as a compulsory subject for non-English-major students who had not passed the previous entrance English exam. The course instructions focused primarily on grammar and reading, since the final test was in the form of multiple-choice questions, neglecting other skills such as listening, speaking, and writing. In this context, students increasingly use ChatGPT to support their grammar learning in terms of generating grammar answers, explanations, and examples to complete their assignments.

A total of 239 non-English-major students participated in the study, who were selected using convenience sampling. All participants had prior experience using ChatGPT to assist with grammar learning. Participation was voluntary, and they were informed of the purposes of the study before completing the questionnaire. Additionally, respondents were informed that their answers would remain anonymous and would be used solely for research purposes. No identifying personal information was collected. The 30 students who participated in the pilot study were excluded from the main sample of 239 to avoid response bias from prior exposure to the instrument. The sample size (N = 239) exceeded the minimum requirement for multiple regression analysis recommended by Green (1991). With three predictors, Green's rule for testing the overall model ($N \geq 50 + 8m$) requires a minimum of 74 participants, while his rule for testing individual predictors ($N \geq 104 + m$) requires a minimum of 107. Therefore, the present number of participants was adequate to test the proposed hypotheses.

Design of the Study

The purpose of this study is to capture what students' perceptions are and how they use ChatGPT in grammar learning, so a quantitative research design using a cross-sectional survey method was employed. The research model integrated Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Behavioral Intention (BI), Constructive Use (CU), and Shortcut Use (SU). PEOU and PU were independent variables predicting BI, CU, and SU. BI was treated as both a dependent variable and an independent predictor of CU and SU. The usage patterns, CU and SU, were conceptualized as dependent variables presenting the students' actual use of ChatGPT in grammar learning.

Data collection & analysis

Instrument

Data were collected using a self-administered structured questionnaire comprising three parts. Part 1 gathered demographic information, including gender, year of study, self-rated English proficiency level, and frequency of ChatGPT use for grammar learning. This information provided the background to understand the participants in this study. Parts 2 and 3 consisted of 24 Likert-scale items (1 = Strongly Disagree to 5 = Strongly Agree) measuring five constructs: Perceived Ease of Use (PEOU; 5 items), Perceived Usefulness (PU; 6 items), Behavioral Intention (BI; 2 items), Constructive Use (CU; 6 items), and Shortcut Use (SU; 5 items). PEOU, PU, and BI items were modified from the Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh & Davis, 2000), which has been demonstrated across several technology acceptance studies. Items were reworded to reflect the specific context of ChatGPT use in grammar learning (e.g., "It is easy to use ChatGPT to understand grammar rules"; "ChatGPT helps me identify and correct grammar errors").

Items measuring the usage patterns (CU and SU) were developed based on social constructivism to capture the scaffolded and superficial learning behaviors. Constructive use (CU) refers to active, reflection-oriented engagement with ChatGPT, in which learners use the tool to deepen understanding and extend their grammatical knowledge. On the other hand, shortcut use (SU) refers to passive reliance on ChatGPT, where learners prioritize answer retrieval and task completion over understanding and effort.

Pilot Study

Before collecting the main data, a pilot study was conducted with the participation of 30 non-English-major students in the university to ensure the clarity, comprehensibility, and reliability of the questionnaire items. These participants, collected through a convenience sampling method, shared similar demographic and academic backgrounds with the target participants. They were asked to fill out the questionnaires and encouraged to flag any items they found ambiguous, difficult to understand, or confusing.

SPSS (version 27) was used to calculate Cronbach's Alpha figures to assess the consistency and reliability of each construct. All five main scales showed acceptable to good reliability, exceeding the recommended threshold of .70 (Nunnally, 1978). Based on the feedback received, no items were deleted, but some were reworded to improve comprehension. The revised questionnaire was subsequently used for the main data collection.

Data Analysis Procedures

Google Forms were used to distribute the questionnaires, and responses were automatically recorded in a spreadsheet, then exported to SPSS (version 27) for analysis. The analysis included four main stages. First, internal consistency reliability was tested by Cronbach's Alpha coefficients for all variables to ensure that all items grouped under each construct measure the same concept. The accepted Cronbach's value is 0.70, and 0.80 indicates good internal consistency. To answer the two research questions, descriptive statistics, including Means (M) and Standard Deviations (SD), were calculated for all constructs, which revealed students' perspectives and usage patterns when utilizing ChatGPT in learning grammar. Next, Pearson correlation analysis was conducted to examine the relationships between PU, PEOU, BI, CU, and SU before conducting the regression analysis. The last stage is testing the proposed hypotheses (H1 to H7) via multiple regression analysis. Standardized beta coefficients (β), significance levels (p-values), and R^2 values were examined to assess the predictive power of

independent variables on dependent variables across TAM, constructive use, and shortcut use. $p < .05$ was set for statistical significance.

Findings and Discussion

This section presents and interprets the findings of this study in terms of three research questions. RQ1 and RQ2 are addressed through descriptive statistics, while RQ3 is addressed through Pearson correlation coefficients and multiple regression analyses.

Participant Characteristics

To understand the background of participants in this study, the demographic profile of non-English-major participants was analyzed. The final sample consisted of 239 valid responses.

Table 1

Demographic Profile of Participants (N = 239)

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	130	54.9
	Female	107	45.1
	No response	2	—
Year of Study	1st Year	1	0.4
	2nd Year	102	42.7
	3rd Year	67	28.0
	4th Year	64	26.8
	Others	5	2.1
Proficiency Level	Beginner	124	51.9
	Intermediate	104	43.5
	Upper-intermediate	11	4.6
Frequency of ChatGPT Use	Rarely	16	6.7
	Occasionally	99	41.4
	Often	95	39.7
	Very often	29	12.1

Table 1 above illustrates the demographic profile of participants. Regarding gender, males accounted for 54.9% and females 45.1% of the 237 participants who provided gender data; two respondents did not report their gender. In terms of academic standing, the majority of students were second-year students, while the smallest group belonged to first-year students, 42.7% and 0.4%, respectively. When asked to self-rate their English proficiency level, more than half of the students identified as Beginners (51.9%), while only 4.6% considered themselves Upper-intermediate. This indicated that the sample was mainly foundational language learners. Finally, the most common response to the frequency of use of ChatGPT for grammar learning was Occasionally at 41.4%, closely followed by "Often" at 39.7%. Whereas Very Often and Rarely made up a small proportion of 12.1% and 6.7%, respectively.

Reliability Analysis

The reliability analysis included five constructs: Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Behavioral Intention (BI), Constructive Use (CU), and Shortcut Use (SU).

As shown in Table 2, all constructs exhibited high Cronbach's Alpha coefficients, ranging from 0.812 to 0.903, which were higher than the recommended 0.7 threshold. The scale for Perceived Usefulness exhibited the highest level at 0.903, followed by Constructive Use and Perceived Ease of Use at 0.879 and 0.861, respectively. The scale for Behavioral Intention and Shortcut

Use was a bit lower, but all were higher than 0.7. All constructs demonstrated high reliability. Furthermore, the Corrected Item-total Correlation and Cronbach's Alpha if Item Deleted showed that removing any items did not increase the overall reliability of the related construct. Therefore, 24 items were proven to be reliable for measuring non-English-major students' perceptions and their usage patterns of ChatGPT.

Table 2

Reliability Statistics for Measurement Scales

Construct	Number of Items	Cronbach's Alpha (α)
Perceived Usefulness (PU)	6	.903
Constructive Use (CU)	6	.879
Perceived Ease of Use (PEOU)	5	.861
Behavioral Intention (BI)	2	.817
Shortcut Use (SU)	5	.812

Students' Perceptions of ChatGPT in Grammar Learning (RQ1)

The first research question aims to explore the perceptions of students on ChatGPT in the grammar classroom in terms of perceived ease of use (PEOU), perceived usefulness (PU), and behavioral intention (BI).

Table 3

Mean and Standard Deviation of Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI)

Construct	Item	Mean	SD
PEOU	PEOU1	3.616	0.776
	PEOU2	3.492	0.799
	PEOU3	3.815	0.746
	PEOU4	3.786	0.718
	PEOU5	3.791	0.755
PU	PU1	3.615	0.779
	PU2	3.703	0.710
	PU3	3.626	0.740
	PU4	3.598	0.754
	PU5	3.564	0.841
	PU6	3.462	0.939
BI	BI1	3.707	0.829
	BI2	3.613	0.882

Table 3 illustrates that the mean scores for PEOU (3.49 to 3.82) were around 3.70, indicating that many students perceived that it is easy to apply ChatGPT in grammar learning. PEOU3 (It is easy to use ChatGPT to generate clear examples for grammar structures) scored the highest mean (M = 3.82, SD = 0.75), illustrating that example giving was the item on which most

students strongly agreed. In contrast, PEOU2 (It is easy to use ChatGPT to check grammatical accuracy when doing exercises) recorded the lowest mean score (M = 3.49, SD = 0.80), suggesting that students were less confident in the accuracy of ChatGPT's responses. Moreover, the standard deviation of all items in this construct, ranging from 0.72 to 0.80, was moderately high, showing diversity in user experience. Overall, although all students have general perceptions of ChatGPT as moderately easy to use, some may have encountered some language or interface difficulties.

In terms of PU, the average mean of all items in this construct was about 3.59, indicating a neutral perception of usefulness. Among the items, PU2 (ChatGPT gives useful examples that make grammar rules easier to remember) recorded the highest mean score, showing that giving examples was perceived as the most beneficial aspect of ChatGPT. Meanwhile, PU6 (Using ChatGPT helps me learn grammar more efficiently than traditional methods) showed the widest SD (0.94), indicating the greatest variation in students' perceptions of ChatGPT's usefulness compared with traditional grammar learning methods. In general, while students recognized the potential usefulness of ChatGPT, their perceptions were moderate rather than strongly positive.

Regarding BI, both items yielded a mean score of around 3.61-3.71, reflecting moderate intention to adopt ChatGPT in learning. BI1 (M= 3.71) recorded a slightly higher level than BI2 (M=3.61), suggesting that students had a stronger intention to continue using ChatGPT than to introduce it to others. The overall results of BI indicate moderate willingness of students to use ChatGPT to support their grammar learning process.

Table 4

Multiple Regression Analysis: Predictors of Behavioral Intention (BI)

Predictor	**B**	**SE**	**β**	**t**	**p**
R^2 = .566, Adjusted R^2 = .562, F(2, 236) = 153.823, p < .001					
(Constant)	.126	.214	—	.590	.556
PEOU	.285	.083	.220	3.439	.001
PU	.690	.077	.574	8.951	< .001

Table 4 presents the multiple regression analysis, confirming the relationship between PEOU, PU, and BI, as proposed in TAM. Perceived ease of use significantly predicted perceived usefulness, supporting the first hypothesis (H1). Furthermore, perceived usefulness emerged as the strongest predictor of behavioral intention (β = .574, p < .001), supporting H2, while perceived ease of use also significantly predicted behavioral intention (β = .220, p = .001), supporting H3. This finding aligns with the foundation of TAM, which theorizes that the behavioral intention to use a system is shaped by two cognitive beliefs, namely perceived usefulness and perceived ease of use (Venkatesh & Davis, 2000). As Davis (1989) found that usefulness was significantly more strongly linked to actual usage than ease of use, and ease of use may function as the antecedent to usefulness rather than a parallel, independent driver of behavioral intention.

Overall, the findings indicate that students hold moderately positive perceptions of ease of use and usefulness of AI, as well as intention to use ChatGPT in grammar learning. These findings are consistent with previous studies on students' behaviors toward ChatGPT in language learning. Ng et al., (2025) found that students recognized the value of ChatGPT in enhancing learning efficiency. Similarly, Pham & Pham (2025) reported that students had a positive attitude and perceived the usefulness of AI tools in grammar and other language skills. Ngo

(2023) also found general positive attitudes of students toward AI tools, particularly time-saving benefits and personalized support. In grammar classroom contexts, Behforouz and Ghaithi, (2024) and Kucuk (2024) found that students enjoyed and had favorable attitudes toward AI tools in supporting grammar learning. Thus, in response to research question 1, non-English-major students generally perceive ChatGPT as easy to use and useful for grammar learning, and perceived usefulness plays a dominant role in shaping their behavioral intention.

Usage Patterns of ChatGPT in Grammar Learning (RQ2)

The second aim of the research is to explore how non-English-major students actually use AI in their learning, particularly in terms of constructive use (CU) and shortcut use (SU).

Table 5

Mean and Standard Deviation of Constructive Use (CU) and Shortcut Use (SU)

Construct	**Item**	**Mean**	**SD**
CU	CU1	3.1933	.81419
	CU2	3.4304	.88323
	CU3	3.5907	.79003
	CU4	3.1046	.94020
	CU5	3.1983	.90591
	CU6	3.2983	.86131
SU	SU1	3.4538	.86418
	SU2	2.7957	1.09427
	SU3	2.9958	1.04720
	SU4	3.3502	1.11221
	SU5	3.2008	1.00495

Table 5 illustrates the descriptive statistics of constructive use (CU) and shortcut use (SU). For constructive use, the mean scores ranged from 3.10 to 3.59, with students using ChatGPT most for explaining grammar mistakes and least for creating custom grammar exercises. Regarding shortcut use items, the figures reflected greater variability. While the primary purpose of using ChatGPT is to get quick answers for exercises (M= 3.45, SD=0.86), copying ChatGPT's answers without checking their explanations scored the lowest. Overall, students engage with ChatGPT in both reflective and efficiency-driven ways, aligning with previous studies stating that AI tools can enhance learning engagement while simultaneously raising concerns about overreliance.

Predictors of Constructive and Shortcut Use (RQ3)

The predictors of Constructive Use

Table 6 presents the multiple regression analysis of constructive use, accounting for 46.2% of the variance in CU ($R^2 = .462$, $F(3, 235) = 67.304$, $p < .001$). Among the predictors, perceived usefulness ($\beta = .333$, $p < .001$) and behavioral intention ($\beta = .301$, $p < .001$) were illustrated as the most positive predictors, supporting H4 and H6a. On the other hand, PEOU did not reach significance ($\beta = .113$, $p = .125$), meaning that PEOU does not predict constructive behavior, not supporting H7a.

Table 6

Multiple Regression Analysis: Predictors of Constructive Use (CU)

Predictor	**B**	**SE**	**β**	**t**	**p**
R^2 = .462, Adjusted R^2 = .455, F(3, 235) = 67.304, p < .001					
(Constant)	.634	.206	—	3.073	.002
PEOU	.126	.082	.113	1.538	.125
PU	.347	.086	.333	4.023	< .001
BI	.261	.063	.301	4.150	< .001

This pattern indicates that students who intentionally planned to use ChatGPT and perceived ChatGPT as an effective tool for their grammar learning had a stronger intention to employ it constructively, such as asking for explanations, generating examples, and revising grammar structures. These findings suggest that students engage in deeper, more reflective use of ChatGPT when they intend to use it for learning and perceive it as genuinely helpful. Additionally, ease of use alone does not lead to constructive behaviors. In other words, simple access does not ensure meaningful learning interaction. Students who found ChatGPT easy to access but did not perceive it as a useful learning instrument were less likely to engage with it in constructive ways. These findings are consistent with the study of Albayati (2024) on students' acceptance of ChatGPT, exploring that although both perceived usefulness and perceived ease of use significantly shaped students' attitude toward the tool, ChatGPT's practical benefits are particularly critical for fostering positive and engaged student behavior. Moreover, Phieanchang (2024) reported significant reductions in grammar errors through personalized ChatGPT-supported assignments, highlighting the tool's scaffolding potential. From a constructivist perspective, the finding that behavioral intention significantly predicts constructive use suggests that deeper engagement is intentional rather than accidental. Students who plan to use ChatGPT are more likely to interact with it in ways that promote understanding rather than merely extracting answers.

The Predictors of Shortcut Use

Table 7

Multiple Regression Analysis: Predictors of Shortcut Use

Predictor	**B**	**SE**	**β**	**t**	**p**
R^2 = .253, Adjusted R^2 = .243, F(3, 235) = 26.524, p < .001					
(Constant)	.806	.276	—	2.917	.004
PEOU	.212	.110	.166	1.926	.055
PU	.347	.115	.294	3.009	.003
BI	.089	.084	.090	1.053	.293

The table above presents the information from the multiple regression analysis of shortcut use, showing whether PEOU, PU, and BI predicted Shortcut Use (SU) of ChatGPT in grammar learning. The general figure was significant ($F(3, 235) = 26.524$, $p < .001$), though it had 25.3% of the variance, indicating weaker explanatory power compared to constructive use. While Perceived Usefulness (PU) was the only significant predictor of Shortcut Use ($\beta = .294$, $t = 3.009$, $p = .003$), supporting H6b, PEOU marginally failed to reach statistical significance (β

= .166, p = .055), and behavioral intention was non-significant (β = .090, p = .293), leading to the rejection of H5 and H7b.

The finding that perceived usefulness significantly predicted shortcut use indicates that students who perceive ChatGPT as an effective tool for writing are likely to use it both constructively and instrumentally. While TAM (Davis, 1989; Venkatesh & Davis, 2000) emphasized PU as a determinant of technology usage intention, the dual directionality in this present finding suggests that perceived usefulness functions as a general motivator for ChatGPT engagement; using it constructively or superficially is shaped by other factors beyond the TAM framework. This raises some concerns regarding the risk of overreliance on AI tools in education. Nopita and Dangin (2025) warned that when students pay more attention to constant feedback instead of deep understanding, their sensitivity to learning may be lost, resulting in reduced analyticality and creativity. Gunawan and Susanto (2025) also observed that 85% of students in their study tended to rely on ChatGPT to complete tasks, raising concerns that because ChatGPT makes learning easier and more instant, its users perceive it as a tool that provides instant answers or speeds up the process of seeking knowledge. Similarly, Kucuk (2024) found that some students had lost confidence in their own grammatical judgments and felt unable to answer grammar questions without consulting ChatGPT. In general, the present study's findings demonstrate that perceived usefulness does not uniformly promote learners' constructive behaviors; it can equally predict surface usage depending on learners' orientation toward efficiency or understanding.

Regarding the other two predictors, both perceived ease of use and behavioral intention were not predictors of shortcut use. The absence of a significant relationship between behavioral intention and shortcut use is theoretically informative. In the previous finding, BI showed as a strong predictor of constructive uses, reflecting the goal-directed nature of deep learning. On the other hand, this current finding suggests that shortcut behaviors may be less consciously planned and more situationally driven, arising from convenience, time pressure, or habitual reliance on ChatGPT. This aligns with Singh et al. (2023), who warned that over-dependence on the system and using it to generate content directly represents a form of misuse. Additionally, perceived ease of use was marginally non-significant in predicting shortcut use, which is consistent with TAM, proposing that perceived ease of use acted like an antecedent to perceived usefulness rather than as an independent determinant of usage. This finding may indicate the fact that in the domain of grammar learning, ease of use is a contributor but an insufficient factor.

In response to RQ3, perceived usefulness was the strongest predictor across both usage patterns, significantly predicting both constructive and shortcut use. Behavioral intention predicted only constructive use, while perceived ease of use did not significantly predict either pattern.

In conclusion, the findings demonstrate that ChatGPT holds strong potential in grammar learning. Students engage in both constructive, scaffolded-for-understanding and superficial, shortcut behaviors for task completion. The determining factor lies not in ease of use, but in students' learning intentions and how they interpret the tool's usefulness.

Conclusion

Summary of findings

This study explores the perceptions and actual usage patterns of non-English-major students at a university in Ho Chi Minh City on ChatGPT in learning grammar, through the lens of the

Technology Acceptance Model (TAM). The findings provide clear answers to the research questions and offer important understandings of how students engage with ChatGPT in learning.

With respect to how students think of ChatGPT, the findings revealed that students are generally positive about its usefulness, easy accessibility, and behavioral intention. Perceived Ease of Use (PEOU) indicated that students found ChatGPT accessible and manageable for grammar tasks, in which generating examples was the easiest application, while checking grammatical accuracy was somewhat lower, reflecting the uncertainty of the tool's reliability. In addition, the Perceived Usefulness (PU) figures showed neutral to moderate recognition of ChatGPT's value, particularly when comparing ChatGPT to traditional grammar learning methods, which showed the widest variability, reflecting diverse perceptions of AI-assisted versus conventional instruction. Moreover, the results of Behavioral Intention (BI) showed a moderate willingness to continue using ChatGPT, with students' preference for personal use over recommending to others. In general, these findings confirm students' primary acceptance of ChatGPT by its perceived learning value.

Regarding the actual use of ChatGPT for learning grammar, students showed their engagement both constructively and superficially. However, shortcut use showed greater variability, with most students reporting obtaining quick answers for grammar exercises from ChatGPT, while direct copying without checking explanations was the least frequent shortcut behavior. These findings affirm ChatGPT's dual potential to both enhance learning and foster passive dependence.

The regression analysis clarified different predictors of each usage pattern. For constructive use, both Perceived Usefulness and Behavioral Intention were significant predictors, while Perceived Ease of Use was not, underscoring that the meaningful engagement with the tool is driven by students' recognition of its learning value and their purposeful use, rather than the tool's accessibility. For shortcut use, Perceived Usefulness was again the main predictor, whereas Behavioral Intention showed marginal non-significance, and Perceived Ease of Use played no role in predicting this usage pattern. This suggests that students' shortcut behaviors are less consciously planned and more affected by students' general sense of the tool's usefulness.

Limitations and recommendations

Despite the contribution, there are some limitations of this study. First, the sample was from a single university using convenience sampling, which limits the generalizability of the results to other institutional contexts. Second, the study captures students' perceptions and self-reported behaviors at a single point, which cannot account for changes when students gain more experience with ChatGPT over time. Third, the study relies on data from self-reported questionnaires, which may be subject to social desirability bias, as students may have underreported shortcut behaviors or overestimated the constructive interaction in their actual use. Fourth, the TAM framework does not fully capture other influential factors in educational settings, such as learning goals, instructor guidance, assessment format, facilities, and digital literacy. Finally, the study focuses on quantitative data and does not explore students' experiences or reasoning in depth.

From the findings and limitations of this study, the following suggestions for future research are proposed. Future studies should extend the population to more diverse students from different institutions and educational levels to assess the generalisability of the current findings. Furthermore, longitudinal designs could examine students' perceptions over time since they

would be more familiar with AI tools. Additionally, future research may explore further predictors of shortcut behavior to explain more about the finding that Behavioral Intention does not significantly predict shortcut use in this study. A qualitative or mixed-methods approach would provide broader insight into how and why students use ChatGPT. Finally, future studies could explore instructional interventions or pedagogical strategies that guide students to use ChatGPT more constructively and reflectively in learning grammar.

Conflict of interests

The author declares that there is no conflict of interest regarding the publication of this paper.

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Biodata

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Appendix: Student Questionnaire

Students' Perceptions and Use of ChatGPT in Grammar Learning

Dear students,

I am conducting a study on students' perceptions and usage of ChatGPT in learning grammar. Your answers are only used for scientific research, provide a reference for improving teaching, and ultimately contribute to your effective learning. I will not disclose your personal information. There are no right or wrong answers, and it has nothing to do with test scores. Please feel free to answer according to the actual situation. This survey is voluntary, and you can opt out at any time. Sincerely, thank you for your cooperation!

Part 1: Demographic Information

1. Gender: ☐ Male ☐ Female

2. Year of study: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

3. Frequency of ChatGPT use for grammar learning: ☐ Rarely ☐ Occasionally ☐ Often ☐ Very often

4. English proficiency level (self-rated): ☐ Beginner ☐ Intermediate ☐ Upper-intermediate ☐ Advanced.

Part 2: Perceptions of ChatGPT in Grammar Learning (Technology Acceptance Model)

1 – Strongly Disagree
2 – Disagree
3 – Neutral
4 – Agree
5 – Strongly Agree

A. Perceived Ease of Use (PEOU)

PEOU1	1. It is easy to use ChatGPT to understand grammar rules.
PEOU2	2. It is easy to use ChatGPT to check grammatical accuracy when doing exercises.
PEOU3	3. It is easy to use ChatGPT to generate clear examples for grammar structures.
PEOU4	4. It is easy to use ChatGPT to ask grammar-related questions.
PEOU5	5. It is easy to use ChatGPT to practice grammar in interactive ways.

B. Perceived Usefulness (PU)

PU1	6. ChatGPT helps me identify and correct grammar errors.
PU2	7. ChatGPT gives useful examples that make grammar rules easier to remember.
PU3	8. ChatGPT helps me apply grammar rules correctly in my writing.
PU4	9. Using ChatGPT improves my overall grammar performance.
PU5	10. Using ChatGPT makes grammar learning more interesting and engaging.
PU6	11. Using ChatGPT helps me learn grammar more efficiently than traditional methods.

C. Behavioral Intention (BI)

BI1	12. I intend to continue using ChatGPT to learn grammar.
BI2	13. I would recommend ChatGPT to other students for grammar learning.

Part 3: Patterns of ChatGPT Use in Grammar Learning (Social Constructivism)

A. Constructive Use (as Learning Scaffold)

CU1	14. I use ChatGPT to check my understanding after studying grammar lessons.
CU2	15. I use ChatGPT to compare my own answers with AI-generated answers.
CU3	16. I ask ChatGPT to explain grammar mistakes in my writing.
CU4	17. I use ChatGPT to create my own grammar exercises for practice.
CU5	18. I use ChatGPT to explore new grammar points beyond what was taught in class.
CU6	19. I use ChatGPT to reflect on my errors and improve my grammar learning strategies.

B. Shortcut Use (as Answer Generator)

SU1	20. I use ChatGPT mainly to get quick answers for grammar exercises.
SU2	21. I copy ChatGPT's answers without checking their explanations.
SU3	22. I use ChatGPT to finish grammar assignments faster rather than to learn.
SU4	23. I rarely read the explanations that ChatGPT provides.
SU5	24. I prefer ChatGPT to traditional grammar practice because it saves time.