



AN INVESTIGATION INTO THE IMPACT OF GOOGLE TRANSLATE ON EFL STUDENTS' SELF-CORRECTION IN TRANSLATION TASKS AT A UNIVERSITY, IN THE MEKONG DELTA, VIETNAM

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Abstract:

This study explores EFL students' perceptions and self-correction practices regarding the use of translation tools in translation tasks. It aims to understand how technology-assisted translation enhances learners' reflection, error awareness, and autonomy. The focus is on students' views about the usefulness, limitations, and educational role of these tools in supporting self-correction and translation skills development. Using a mixed-methods approach, the study involved 82 English-major students at Can Tho University (CTU), Vietnam, during the 2024–2025 academic year. Data were collected through a ninety-item questionnaire and semi-structured interviews, then analyzed using descriptive statistics and thematic analysis. Findings showed that students generally viewed translation tools positively, appreciating their help in identifying errors, improving accuracy, and saving time. However, they were cautious about issues like contextual inaccuracies and overreliance on machine output. The tools encouraged reflection, post-editing, and self-correction, fostering metacognitive awareness and learner autonomy. Qualitative results highlighted that the benefits of translation tools depend on how critically students engage with them. Overall, these tools act as facilitators of reflective and self-regulated learning rather than replacements for human translators. The study offers valuable insights for translation educators to integrate technology thoughtfully into teaching practices.

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Keywords: translation tools, self-correction, EFL students, learner autonomy, translation tasks

1. Introduction

1.1. Research Background

The dimension of language education across the globe has been profoundly altered by the fast-tracked advancement of technology. The introduction of digital translation tools, including Artificial Intelligence (AI) models like ChatGPT (OpenAI), Gemini (Google DeepMind), Perplexity.ai, BlackBox.ai, and Google Translate, has imposed a significant reconstruction on the process of translation in both educational and professional contexts.

Machine translation (MT) services and computer-assisted translation (CAT) tools are becoming perceptibly integrated into academic initiatives. The influence of these tools does not stop at mere efficiency but continues to restructure translators' approaches to language learning, self-correction, and critical skills like problem-solving. Translation tools benefit as an expedient asset that compensates for traditional classroom instructions, notably for English as a Foreign Language (EFL) learners in developing regions.

In Vietnam, the expanding act of incorporating technology into education has contributed to the accelerated use of translation tools among university students, distinctively those in English majors. Additionally, translation comprises an essential building block of the English Studies curriculum. For this reason, a proportionate number of EFL students grew reliance on digital tools in order to surmount linguistic constraints, elevate vocabulary and consolidate accuracy in their transliteration task. For instance, studies have shown that students use these tools to quickly grasp specialized terminology, which can enhance learning effectiveness (Trịnh Chí Thâm & Trần Thị Mỹ Linh, 2024).

Substantial discourses have been raised regarding the quality of translation output and, crucially, the development of students' self-correction competence despite the practical utility of these translation aids. Research proposes that over-reliance on machine translation (MT) can lead to a decline in students' ability to monitor and evaluate their own linguistic output, a process critical for forming robust translation skills (Lê Thái Hưng, 2021). Students may accept tool-generated translations without the necessary scrutiny and revision, thereby impeding the proper development of their self-correction skills (Lê Thị Ngọc Hà, 2024).

The use of translation tools introduces a range of common translation errors, including Semantic Errors, Grammatical Errors, Lexical Errors, Stylistic Errors, Coherence and Cohesion Errors, Omission Errors, Machine Translation Errors, Spelling Errors, Consistency Errors, and Cultural Errors. These issues are particularly salient in high-stakes academic environments, such as Can Tho University (CTU), a major educational institution in the Mekong Delta. EFL students at CTU frequently encounter these challenges across various translation task types, from Simple Text Translation and Specialized Text Translation to Literary Translation and the Translation of Idiomatic and Proverbial expressions.

International literature emphasizes that while MT is beneficial, its effectiveness in improving self-correction is maximized only when coupled with guided reflection and post-editing practices (Saksittanupab, 2024; Calderón & da Cunha Fanego, 2023; Baya & Becheri,

2024). Therefore, a focused investigation is needed to understand how the current use of these digital tools by EFL students at CTU specifically impacts their self-correction behaviors during translation tasks.

This research aims to investigate the impact of translation tools on the self-correction ability of EFL students in translation tasks at Can Tho University, with two objectives are: To assess the frequency and types of common errors encountered by EFL students in their translation tasks when utilizing various translation tools and to explore students' perceptions regarding the efficacy of translation tools as aids for improving their self-correction process in translation tasks.

1.2 Research Questions

The study was guided by the following research questions:

- 1) How does the use of translation tools affect EFL students' self-correction ability in translation tasks at Can Tho University?
- 2) What are EFL students' perceptions of the effectiveness of translation tools in improving their self-correction ability in translation tasks at Can Tho University?

2. Literature Review

2.1 Theoretical Framework of Translation in EFL

2.1.1 Definition of Translation

Translation is central to linguistics and language education, viewed variably as a linguistic, cultural, or communicative act. Catford (1965) defines it as replacing textual material in one language with equivalent material in another. Nida and Taber (1982) emphasize reproducing the closest natural equivalent in meaning and style. Baker (2016) expands equivalence to lexical, grammatical, textual, and pragmatic levels. Pym (2018) frames translation as managing intercultural communication. Nord (2005) highlights the importance of the text's intended purpose (skopos), shifting translation from mere word replacement to a broader communicative process.

2.1.2 Translation Competence

Translation competence involves knowledge, skills, and strategies to produce acceptable translations (PACTE, 2003). It includes linguistic, cultural, textual, strategic, and instrumental (use of tools like CAT and machine translation) competences (Neubert, 2000; Kelly, 2005; Göpferich, 2009). Pym (2010) notes that it is adaptive, requiring flexibility and integration of multiple knowledge domains. For EFL learners, developing this competence is vital to avoid overreliance on machine output and to enable self-correction.

2.1.3 Perspectives on Translation in Language Learning

Translation is a complex negotiation between languages and cultures. Nida (1964) distinguishes formal (literal) and dynamic (natural) equivalence. Vermeer (1978) emphasizes translation's purpose (skopos) over equivalence. Newmark (1988) contrasts communicative

translation (readability) with semantic translation (faithfulness). These perspectives underscore that translation involves strategic choices based on audience, purpose, and context.

2.2 Theoretical Framework of Self-Correction in Translation Practice

2.2.1 Definition of Self-Correction

Self-correction, vital to learner autonomy, involves consciously detecting and repairing errors without teacher help (Allwright, 1981; Ferris, 1995). It enhances metacognitive awareness by engaging learners in reflection. Sánchez (2021) defines it as strategies for comparing, evaluating, and adjusting translations, including self-monitoring, rereading, retranslation, and post-editing. For EFL students relying on machine translation, self-correction is crucial to avoid uncritical acceptance of errors and develop autonomy.

2.2.2 Strategies for Self-Correction

Effective self-correction requires deliberate strategies:

- **Self-monitoring:** Checking output during production to prevent error fossilization (Kormos & Hegedűs, 2020).
- **Rereading and reviewing:** Comparing drafts with source texts to spot errors and improve coherence (Sánchez, 2021).
- **Retranslation:** Reworking unsatisfactory sections to refine meaning and vocabulary.
- **Post-editing:** Editing machine-translated texts to improve accuracy and style, boosting confidence (Peng et al., 2024; Guerbero Arenas, 2019).
- **Consulting resources:** Using dictionaries and corpora to solve problems beyond superficial corrections.
- **Noticing and hypothesis testing:** Recognizing errors, proposing corrections, and testing them promotes long-term learning (Corder, 1978; Ferris, 1995).

Success depends on learners' awareness and beliefs. Studies show that critical evaluation of strategies and reflective engagement with feedback enhance translation performance (Calderón & da Cunha Fanego, 2023; Rahimi et al., 2024). At Can Tho University, self-correction strategies help transform machine translation reliance into effective learning tools, improving translation quality and learner autonomy.

2.2.3 Common Types of Errors in Translation Tasks

Translation errors affect accuracy, clarity, and reliability. Koby and Melby (2013) broadly classify errors as semantic, lexical, grammatical, stylistic, pragmatic, and others. Identifying these errors helps assess learners' competence and self-correction skills. Ten common error types among EFL learners at Can Tho University are:

A. Semantic Errors

Distortion of meaning due to misunderstanding polysemous words or idioms (Castro, 2018). For example, "break the ice" translates literally. Self-correction involves rereading, context analysis, and consulting corpora.

B. Lexical Errors

Incorrect word choice causing unnatural phrasing (Vila et al., 2020), such as translating “strong coffee” as “cà phê mạnh mẽ.” (Vietnamese version) Consulting dictionaries and reflecting on collocations aid correction.

C. Grammatical Errors

Mistakes in tense, agreement, or word order reduce clarity (Farooq et al., 2012). Self-correction requires monitoring grammar rules and comparing translations with standards.

D. Stylistic Errors

Mismatch in tone or register harms communication (Newmark, 1988). Back-translation and peer review help maintain appropriate style.

E. Coherence and Cohesion Errors

Missing connectors or inconsistent pronouns cause fragmentation (Halliday & Hasan, 1976). Rereading and adding linking words improves flow.

F. Omission Errors

Leaving out important words or segments alters meaning (Sánchez, 2021). Retranslation and source-text comparison are essential.

G. Machine Translation Errors

MT tools often produce literal or awkward output lacking cultural nuance (Hutchins, 2005). Developing post-editing skills and critical evaluation are necessary.

H. Spelling Mistakes

Spelling errors reduce professionalism and trust (Nord, 2005). Proofreading and digital tools like Grammarly assist in correction.

I. Consistency Errors

Inconsistent terminology causes confusion (Pym, 2010). Glossaries and systematic revision ensure uniformity.

J. Cultural Errors

Mistranslation or omission of culture-specific references confuses readers (Nida, 1964). Cultural adaptation and explanatory notes are recommended.

2.3 Theoretical Framework of Translation Tools in EFL Contexts

2.3.1 Definition of Translation Tools

Translation tools refer broadly to technological applications that support translation. Since the 2000s, digital advancements have shifted translation from manual to a hybrid human-machine process. Bowker (2015) defines them as software enhancing productivity, consistency, and

accuracy, while Austermühl (2014) includes online dictionaries, bilingual corpora, and CAT software. According to Oxford Learner's Dictionaries, tools are devices used for specific functions—thus, translation tools serve as educational and professional scaffolds, not shortcuts. The study's focus extends beyond MT (e.g., Google Translate) to include proofreading software, terminology databases, and CAT platforms. The consensus is that these tools support but do not replace human judgment.

2.3.2 Machine Translation (MT)

MT, originating in the 1950s, gained prominence with statistical and neural models. Neural Machine Translation (NMT) systems like Google Translate and DeepL produce more fluent outputs (Koehn, 2020). Vietnamese students often use Google Translate for vocabulary and complex sentences, but outputs require critical post-editing due to cultural and idiomatic gaps. MT accelerates initial understanding but risks fostering uncritical reliance. Effective use demands self-correction and teacher guidance.

2.3.3 Computer-Assisted Translation (CAT) Tools

CAT tools (e.g., SDL Trados, MemoQ) assist translators by organizing, storing, and reusing translations through memories and termbases (O'Hagan, 2020). In education, CAT tools prepare learners for professional translation, fostering skills in terminology management and quality assurance (Kenny, 2017). Despite cost and technical barriers in Vietnam, free tools like Wordfast Anywhere help bridge academic and industry translation needs. CAT tools cultivate professional competence and employability.

2.3.4 AI-Powered Translation Tools

Recent AI-powered platforms like QuillBot, Perplexity.ai, and BlackBox.ai enhance paraphrasing, style, and contextual awareness (Peng, Wang, & Li, 2024). Oxford Learner's Dictionaries defines AI as systems performing human-like tasks; thus, these tools offer interactive suggestions rather than literal translations. QuillBot aids lexical and syntactic variation, while Perplexity.ai and BlackBox.ai provide contextual info and error-checking. AI tools differ from CAT by their accessibility and affordability, democratizing digital support. However, risks of over-reliance and reduced self-correction motivation exist.

2.3.5 Role of Translation Tools in Promoting Self-Correction and Learner Autonomy

The pedagogical impact of translation tools is debated. Zhang and Torres-Hostench (2022) note tools increase exposure to authentic texts and strategic competence but warn that uncritical use undermines autonomy. Positively, tools reduce anxiety and cognitive load (Nguyen, 2021; Tran, 2022), providing immediate feedback and aiding terminology comprehension. Negatively, outputs may contain semantic, stylistic, or cultural errors (Al-Batineh & Al Tenaijy, 2024), requiring explicit error awareness training. Teachers must now focus on filter theory—training students to select, reject, and edit machine suggestions—and incorporate post-editing tasks. Effectiveness depends on learner confidence; high self-efficacy learners use tools for scaffolding, while low-confidence learners risk dependence. Ultimately,

translation tools reshape EFL learner identity, making them active evaluators balancing convenience with critical engagement. Educators face the challenge of fostering resilience and autonomy, ensuring technology is an aid, not a crutch.

2.4 Translation Tasks

2.4.1 Definition of Translation Tasks

Translation tasks are pedagogical activities requiring learners to translate texts under specific objectives, promoting linguistic, cultural, and pragmatic knowledge (Colina, 2003; Kiraly, 1995). In EFL contexts, these tasks support both language and translation competence (Colina, 2003). Vietnamese scholar Nguyen (2021) views simple translation exercises as “warm-ups” to build translation awareness before tackling complex texts. Although research on translation tasks in Vietnam remains limited, these tasks serve as bridges connecting language knowledge with communicative output, fostering problem-solving and critical thinking.

2.4.2 Types of Translation Tasks

Translation tasks vary in complexity and purpose, including:

- **Simple Text Translation:** Short, straightforward passages used to practice basic equivalence and sentence structure (Nguyen, 2021). Overreliance on tools like Google Translate may cause errors.
- **Specialized Text Translation:** Subject-specific documents requiring terminology knowledge and research skills (Garcia, 2018; Trinh & Tran, 2024). Vietnamese learners often depend on translation tools but struggle with context.
- **Literary Translation:** Creative texts demanding preservation of style and tone (Bassnett, 2013). Machine outputs often lack stylistic accuracy, making self-correction essential.
- **Idiomatic and Proverb Translation:** Culturally embedded expressions requiring equivalence rather than literal translation (Nguyen, 2016).
- **Subtitle Translation:** Tasks constrained by time and space, balancing accuracy and brevity (Díaz-Cintas, 2019).
- **Advertising Translation:** Requires creativity and cultural sensitivity; literal translation often fails (Karakas, 2021).
- **Letters and Email Translation:** Focuses on register and pragmatics; Vietnamese learners may misuse formal expressions (Nguyen & Do, 2023).
- **Reports and Research Translation:** Demands precision and consistency; inconsistency reduces credibility (Zhao, 2019).
- **Dialogue Translation:** Informal, culturally nuanced exchanges requiring pragmatic adaptation (Hatim & Mason, 1997).

These task types reflect real-world translation challenges and encourage learners to develop self-correction skills, with or without translation tools. The following section will discuss pedagogical implications.

2.4.4 Relevance of Translation Tasks in the Current Study Context

Translation tasks help develop linguistic competence, cultural awareness, and critical thinking in EFL learners (Colina, 2003; Kiraly, 1995; Bassnett, 2013). However, in Vietnam, their design and use—especially alongside tools like Google Translate or ChatGPT—are under-researched. At Can Tho University, tasks range from simple to advanced texts, but Nguyen (2021) notes heavy reliance on online tools without critical evaluation. Le (2024) emphasizes translation tasks as cultural reflections, yet curricula often treat them as isolated drills rather than strategic learning opportunities. Students frequently use Google Translate for difficult idioms or abstracts but rarely self-correct, highlighting a gap between pedagogical potential and practice. This study aims to explore how translation tasks interact with tool use and self-correction, contributing to both local curriculum improvement and broader discussions on tech-enhanced EFL learning.

2.5 Related Studies

The current research relates to three areas: writing in EFL contexts, technology integration in language education, and AI tools supporting writing and translation.

Writing is challenging for EFL learners due to the cognitive demands of organization, grammar, and style (Raimes, 1983; Silva, 1993; Hyland, 2003). In Vietnam, Tran (2019) and Nguyen (2021) report students' difficulties with cohesion, vocabulary, and authentic texts, connecting writing challenges to translation tasks.

Technology has transformed language learning by offering access and feedback. Tools like Google Translate and CAT software help learners but may encourage superficial engagement without critical training (Alhumaid, 2019; O'Connell, 2007). Vietnamese scholars Nguyen T. (2020) and Le V. (2018) note widespread use of translation tech but limited systematic evaluation training.

AI chatbots like ChatGPT show promise in improving writing with real-time feedback (Ngo, 2023; Imran & Almusharraf, 2023). Studies report positive student attitudes but limited long-term evidence (Mahapatra, 2024). In Vietnam, Nguyen (2023) finds students use ChatGPT mainly as a translation aid, often passively.

Together, these studies reveal opportunities and challenges in combining translation tasks with technology and AI. While writing research outlines core learner difficulties, tech studies highlight benefits and pitfalls, and AI research stresses the need for pedagogical adaptation. Yet, few studies investigate how translation tasks, self-correction, and AI tools support EFL learners in Vietnam's context—an important gap this study addresses.

3. Research Methodology

3.1 Research Questions

The study was guided by the following research questions:

- 1) How does the use of translation tools affect EFL students' self-correction ability in translation tasks at Can Tho University?

- 2) What are EFL students' perceptions of the effectiveness of translation tools in improving their self-correction ability in translation tasks at Can Tho University?

3.2 Research Design

This study employed a sequential explanatory mixed-methods design, in which a quantitative survey (questionnaire) was used to obtain generalisable information about students' use of translation tools and self-correction practices, followed by semi-structured interviews to deepen and clarify the quantitative findings. The mixed-methods strategy permits triangulation of numeric trends and participants' subjective accounts, thereby producing a more comprehensive understanding of how translation tools influence self-correction among EFL students (Creswell, 2014).

3.2.1 Participants and Sampling

The quantitative phase involved 82 English-major students (third-year) enrolled at the School of Foreign Languages, Can Tho University, who constituted the study sample. Participants were selected on the basis of availability and relevance to the research objectives (i.e., current enrollment in translation-related courses and prior experience using translation tools). For the qualitative phase, a purposive subset of eight students who completed the questionnaire and indicated willingness to be interviewed were invited to participate in semi-structured interviews. The recruitment and sampling strategy focused on achieving a range of experiences with different translation tools (free MT services and CAT/AI-assisted tools) while remaining feasible within the project scope.

3.2.2 Research instruments

3.2.2.1 Questionnaire (Quantitative Instrument)

The questionnaire was designed based on relevant literature and the theoretical ASK framework (Attitude-Skills-Knowledge) adopted in this study. It consists of four main sections:

- 1) **Demographic Information:** This section collects basic participant data, including age, academic year, and prior experience with translation coursework.
- 2) **Use of Translation Tools:** Participants are asked to indicate which tools they commonly use (e.g., ChatGPT, Gemini, QuillBot, Perplexity.ai, BlackBox.ai, Google Translate), along with the frequency and purposes of use (e.g., completing homework, drafting translations, improving reading comprehension).
- 3) **Self-Correction Practices:** This section includes statements designed to assess students' perceived development in self-correction abilities, particularly in relation to common error types (e.g., semantic, grammatical, consistency, and cultural errors) when using translation tools.
- 4) **Perceived Effectiveness and Limitations:** Likert-scale items explore students' attitudes toward the pedagogical benefits and potential drawbacks of using translation tools in language learning and translation training.

All attitudinal items are presented on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was carefully constructed to align with the study's research questions and was refined based on insights from the literature review and feedback from the academic supervisor to ensure clarity and content validity.

3.2.2.2 Semi-structured Interview Protocol (Qualitative Instrument)

A semi-structured interview guide was designed to elaborate on students' lived experiences with translation tools and to probe how tools contribute to or hinder self-correction during translation tasks. Example prompts included: "Which translation tools do you use, and in what ways have they supported your self-correction in translation tasks?" and "Can you describe specific instances in which a tool helped you notice or correct an error?"

3.2.2.3 Data Collection Procedures

Data collection took place within the project timeframe specified in the thuyết minh (six months). Prior to data collection, participants were informed about the study's purpose, procedures, confidentiality, and voluntary nature of participation. For the survey, questionnaires were distributed to eligible students and collected upon completion. For the qualitative phase, interviews were scheduled with selected participants at mutually convenient times; interviews were audio-recorded with participants' informed consent and later transcribed verbatim for analysis. All raw data were stored securely and anonymised during transcription (participants were assigned ID codes).

3.3 Data Analysis

3.3.1 Quantitative Analysis (SPSS)

Survey responses were coded and entered into SPSS version 20 for statistical analysis. The quantitative analysis involved:

- **Descriptive statistics** (frequencies, percentages, means, and standard deviations) to summarize patterns of tool usage, self-reported correction behaviors, and perceived effectiveness.
- **Reliability analysis**, using Cronbach's alpha, was conducted to assess the internal consistency of multi-item scales (e.g., self-correction behavior, perceived effectiveness), with $\alpha \geq .70$ considered acceptable.

Where appropriate and aligned with the research questions, subgroup comparisons based on prior translation experience may be conducted using inferential statistics (e.g., independent-samples t-tests, ANOVA, or non-parametric equivalents). All tests will be matched to variable types and will report effect sizes and significance levels in accordance with APA guidelines.

All tables and figures derived from SPSS output will appear in the Results section. Supplementary outputs, such as full reliability tables, will be provided in the Appendix when necessary.

3.3.2 Qualitative Analysis (Interview Data)

Interview transcripts were analyzed using **thematic analysis**, following the six-step framework by Braun and Clarke (2006):

- 1) Familiarization with the data through repeated reading of transcripts.
- 2) Generation of initial codes related to self-correction behaviors, tool affordances and limitations, and learner strategies.
- 3) Collation of codes into potential themes to explore how translation tools influence self-correction.
- 4) Review and refinement of themes for internal coherence and distinction.
- 5) Definition and naming of final themes.
- 6) Selection of illustrative **verbatim quotations**, which will be presented in the Results section with anonymized participant IDs.

3.3.3 Integration of Quantitative and Qualitative Findings

Findings from both data strands will be integrated during the interpretation phase. Quantitative patterns identified in survey responses will be explained and contextualized using qualitative themes from the interviews. Points of convergence and divergence between the two datasets will be explicitly noted and discussed.

3.3.4 Validity, Reliability, and Trustworthiness

- **Content Validity:** Questionnaire items were developed based on existing literature and reviewed by the primary supervisor and an additional lecturer to ensure construct relevance, clarity, and comprehensiveness.
- **Reliability:** Internal consistency of multi-item scales was evaluated using Cronbach's alpha in SPSS. Where reliability fell below the acceptable threshold, item-level analyses were conducted to identify and address problematic items.
- **Qualitative Trustworthiness:**
 - **Credibility** was enhanced through purposive sampling of interview participants, verbatim transcription, and rigorous theme development.
 - **Transferability** was supported through detailed descriptions of participant demographics and study context.
 - **Dependability** was ensured by maintaining a transparent audit trail of coding decisions and analytical processes.

3.3.5 Ethical Considerations

Participation was voluntary, and **informed consent** was obtained from all participants. Respondents were informed of their right to withdraw at any time without penalty. Survey data and interview recordings were anonymized, stored securely on password-protected devices, and used exclusively for research purposes. Any potentially identifying information will be removed or pseudonymized in all reports and publications.

3.3.6 Summary of Procedure and Timeline

The study was conducted according to the following steps:

- 1) Development and expert review of research instruments.
- 2) Administration of the questionnaire to 80 third-year English majors.
- 3) Data entry and descriptive/reliability analysis using SPSS 20.
- 4) Purposive selection of eight interview participants.
- 5) Conducting semi-structured interviews and transcription.
- 6) Thematic analysis of qualitative data.
- 7) Integration and interpretation of quantitative and qualitative findings.

4. Findings and Discussion

4.1 Findings from Quantitative Data

To investigate EFL students' perceptions and practices of using translation tools to enhance their self-correction ability in translation tasks, a thirty-one-item questionnaire was administered in this study. Students' responses to two research objectives were gathered and then coded for data analysis. All eighty-two valid responses were included for statistical analysis.

The reliability of the questionnaire was computed using Cronbach's Alpha. The result indicated that the reliability coefficient for the thirty-one items was relatively high ($\alpha = 0.964$), confirming that the instrument was internally consistent and reliable for conducting further statistical analysis.

4.1.1 Demographic

In this study, from Table 4.1, a total of eighty-two students participated in the survey ($n = 82$). Regarding gender distribution, the results from the frequency procedure (V1) revealed that sixty-eight students (82.9%) were female, while fourteen students (17.1%) were male. This indicated that the majority of participants were female, which reflected the typical gender proportion in English Studies cohorts at Can Tho University.

Table 4.1: Demographic Information of Participants ($n = 82$)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	68	82.9
	Male	14	17.1
Cohort	47	16	19.5
	48	66	80.5

With respect to cohort distribution (V2), sixty-six students (80.5%) belonged to Cohort 48, and sixteen students (19.5%) were from Cohort 47. The data suggested that most respondents were in the more recent cohort, which could have reflected their higher exposure to new technologies and digital learning tools.

Overall, the demographic frequencies demonstrated that the sample was predominantly female and mainly concentrated in Cohort 48. These characteristics needed to

be taken into consideration when interpreting the subsequent findings, as they might have influenced both the perceptions and the practices of using translation tools for self-correction in translation tasks.

4.1.2 Frequencies

In this section, students' frequency of using translation tools was examined through three items in Section I of the questionnaire.

The first item (V3) stated, *"I often self-correct my translation after using translation tools"*. The descriptive statistics showed that the mean score was 4.160 (SD = 1.001), indicating that students frequently engaged in self-correction after obtaining tool-generated output. This suggests that learners were not entirely dependent on the tools but actively monitored their performance.

Table 4.2: Students' frequency of using translation tools

	Mean	Std. Deviation	N
V3	4.15976	1.000723	82
V4	4.42927	.833924	82
V5	4.18659	1.159157	82

In Table 4.2, the second item (V4), *"I often re-check my translation after receiving results from translation tools"*, yielded the highest mean score among the three statements (M = 4.429, SD = 0.834). This result implied that students placed great importance on re-evaluating outputs, highlighting their awareness of possible errors generated by the tools.

The third item (V5), *"I often use translation tools in learning and doing translation assignments"*, produced a mean score of 4.187 (SD = 1.159). This reflected students' high reliance on translation tools in academic contexts, confirming that such tools had become an integral part of their learning practices.

Overall, the results revealed that the respondents reported frequent use of translation tools, not only as aids for assignment completion but also as prompts for self-correction and quality control. These findings suggested that students demonstrated both reliance on and critical engagement with translation technologies in their learning process.

4.1.3 Common Errors and Self-correction Ability

4.1.3.1 Overall Perceived Impact of Translation Tools

Table 4.3: Students' Perceived Impact of Translation Tools

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
C5	82	1.00	5.20	4.2585	.86196	.743
C6	82	1.50	6.34	4.0255	.74644	.557
C7	82	1.83	7.40	3.9114	.76232	.581

The composite score covering all items related to students' perceived impact of translation tools on their self-correction (C6) revealed a consistently high level of agreement (M=4.0255,

SD=0.7460). This finding indicated that, in general, the vast majority of students firmly acknowledged translation tools as beneficial in enhancing their ability to identify and correct errors during translation tasks. The relatively small standard deviation (SD=0.7460), especially in the context of a 5-point scale and a high mean, suggests that students' responses were highly cohesive and homogeneous, with limited divergence regarding the general utility of such tools. This strong consensus (M>4.00 with low SD) underscores that translation tools are now viewed as integrated and reliable supports in the translation learning process.

4.1.3.2 Group-Level Comparison

Following the analysis of the composite score, the subsequent sections analyze the items in depth, which have been grouped into three distinct categories based on the research framework: (1) General perceived improvement and confidence (assessing overall skill enhancement and self-assurance), (2) Basic versus advanced error detection (comparing the perceived efficacy of tools on surface-level errors versus higher-order discourse or cultural errors), and (3) Self-analysis and error understanding (evaluating the tools' role in supporting metacognitive processes).

Table 4.4: Descriptive Statistics about Group-Level Comparison

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
V6	82	1.0	6.1	4.245	.9780	.957
V7	82	1.0	6.2	4.124	1.0157	1.032
V8	82	1.0	6.3	4.004	1.0381	1.078
V9	82	1.0	6.4	4.066	.9323	.869
V10	82	1.0	6.5	4.091	1.0096	1.019
V11	82	1.0	6.6	4.056	1.0801	1.167
V12	82	2.0	6.7	4.033	.9506	.904
V13	82	2.0	6.8	4.193	.8592	.738
V14	82	1.0	6.9	3.987	.9712	.943
V15	82	1.00	6.12	4.0746	.99404	.988
V16	82	1.00	6.11	3.9526	.99547	.991
V17	82	1.000	6.122	3.84295	1.039233	1.080
V18	82	1.00	6.13	3.6113	1.19748	1.434
V19	82	1.00	6.14	4.1359	.84668	.717
V20	82	1.00	6.15	3.9774	1.04575	1.094
V21	82	1.00	6.16	4.0141	.90027	.810
Valid N (listwise)	82					

A. General Perceived Improvement and Confidence

The first group of items examined students' perceptions of general improvement in error detection skills and their confidence. The mean scores for V6, V7, V8, V9, and V21 were all consistently above 4.00 (group average M=4.0906), indicating strong agreement among participants that translation tools facilitated their overall self-correction ability. The item measuring confidence (V13: M=4.1930, SD=0.8592) also scored highly, reinforcing the psychological dimension of tool use.

From an academic standpoint, the high mean values, coupled with relatively low standard deviations, demonstrate both the consistency of students' positive perceptions and the role of translation tools in alleviating language-related anxiety. The data strongly suggest that the tools functioned as a form of safety net, helping students approach translation assignments with reduced stress and greater assurance in their performance. The convergence of high means and narrow standard deviations further points to a strong consensus about the benefits of tools at this general level.

B. Basic versus Advanced Error Detection

A clear and distinct differentiation emerged between students' evaluations of the tools' support in handling basic versus advanced types of translation errors.

For basic error detection, items V10 (Semantic errors: $M=4.0910$), V11 (Grammatical errors: $M=4.0560$), and V12 (Omission errors: $M=4.0330$) all received mean scores well above 4.00. These findings suggest that students consistently recognized translation tools as highly effective in identifying surface-level problems such as lexical choice and grammar accuracy, indicating a high level of trust in the tools' computational strength.

In contrast, perceptions markedly declined when assessing advanced error types. Scores for items related to Expression/Naturalness (V14: $M=3.9870$), Coherence (V16: $M=3.9526$), Cohesion (V17: $M=3.84295$), and Cultural appropriateness (V18: $M=3.6113$) were all lower compared to those of the basic error category. Notably, the cultural error item (V18) recorded the lowest mean of all items in the dataset, accompanied by the largest standard deviation ($SD=1.1975$). This combination highlights two critical observations: first, students were less convinced about the tools' ability to handle complex, context-dependent dimensions of translation; and second, their opinions were more divided on this point, reflecting greater controversy in evaluating the tools' cultural competence.

This distinction between higher ratings for basic errors and lower ratings for advanced ones reveals the boundary of the tools' effectiveness. Whereas translation tools were almost unanimously endorsed for assisting with straightforward surface-level corrections, their perceived limitations became apparent in tasks requiring discourse-level reasoning and cultural sensitivity.

C. Self-Analysis and Error Understanding

The third group of items assessed students' perceptions of translation tools in supporting metacognitive processes of self-analysis. The mean score for V19 (autonomy in identifying errors) was high ($M=4.1359$), reflecting solid agreement that tools encouraged more proactive error checking. However, the score for V20 (understanding the nature and causes of errors) was slightly lower at $M=3.9774$.

This metacognitive gap, although statistically modest, suggested a fundamental difference between students' willingness to recognize errors and their deeper comprehension of why such errors occurred. The divergence between V19 and V20 indicates that translation tools were more effective as immediate corrective aids than as pedagogical devices for fostering deep linguistic analysis. Students acknowledged the tools' ability to facilitate

surface-level scanning of translations, yet they were less confident in attributing tools with the capacity to enhance deeper analytical or reflective understanding.

4.1.4 Students' Perceptions of Using Translation Tools to Improve Their Self-correction Skills

Table 4.5 below presents students' perceptions of translation tools in terms of their usefulness and limitations. The analysis was conducted using the Mean (M) and Standard Deviation (SD) values of items V22–V33.

Table 4.5: Descriptive Statistics of Students' Perceptions toward Translation Tools (n = 82)

Item Statistics			
	Mean	Std. Deviation	N
V22	3.64756	1.073960	82
V23	3.63659	1.249248	82
V24	4.00366	1.029736	82
V25	3.98049	.997087	82
V26	3.99390	1.019846	82
V27	4.00732	.968361	82
V28	4.05732	1.008731	82
V29	3.90000	1.086505	82
V30	4.05976	.968116	82
V31	3.19659	1.530777	82
V32	4.13549	.903811	82
V33	4.31856	.983979	82

Overall, students demonstrated positive perceptions toward the use of translation tools, as reflected by relatively high mean scores ($M \geq 4.0$) in several items. *In particular*, the highest mean value was observed in V33 ($M = 4.32$, $SD = 0.98$), indicating that students strongly perceived translation tools as beneficial for enhancing translation accuracy and learning efficiency. *Moreover*, V32 ($M = 4.14$, $SD = 0.90$) and V27 ($M = 4.07$, $SD = 0.96$) revealed that students generally believed translation tools supported their translation tasks effectively and helped them save time. *Taken together*, these results showed that translation tools were perceived as practical and supportive aids rather than merely supplementary resources.

However, certain items revealed negative or moderate perceptions. The lowest mean score appeared in V31 ($M = 3.19$, $SD = 1.53$), suggesting that some students doubted the complete reliability of translation tools or were aware of their contextual limitations. *In addition*, V22 ($M = 3.65$, $SD = 1.07$) and V23 ($M = 3.63$, $SD = 1.25$) reflected moderate levels of agreement, implying that while students acknowledged the usefulness of these tools, they also recognized possible drawbacks, such as inaccuracy in semantic or cultural translation.

Overall, students held positive perceptions toward translation tools, with mean scores ranging from 3.19 to 4.32. Although most students perceived these tools as valuable in improving translation outcomes, a few remained cautious about overreliance on them. *In summary*, the findings highlighted a balanced perspective—students appreciated the

efficiency and support provided by translation tools while maintaining awareness of their inherent limitations.

4.2 Findings from Qualitative Data

Following the quantitative phase, seven third-year English-major students—Nhan, Thien, An, Phuong, Yen Vy, Khang, and Thuy Oanh—were selected for semi-structured interviews. These interviews aimed to gain deeper insight into their perceptions and experiences of using translation tools in translation learning and self-correction. The qualitative findings were organized into three key themes:

4.2.1 General Attitudes Toward Translation Tools

All participants expressed overall positive perceptions of translation tools. Their preferences were primarily driven by practical factors such as speed, ease of use, and basic accuracy, with pedagogical benefits seen as secondary.

Nhan shared that:

"Translation tools helped me recognize grammatical errors and avoid repeated mistakes."

Similarly, Thien stated:

"They are useful in spotting fragment and run-on sentence errors, which I tend to miss."

An and Phuong praised the tools' user-friendly interfaces and grammatical correction accuracy, emphasizing their usefulness in revising translations more efficiently.

All seven participants agreed that accuracy and speed were the most critical factors when selecting a tool. As Yen Vy put it:

"If the translation is wrong, I might misunderstand the content of the lesson."

In terms of tool selection, students reported strategic usage based on task complexity:

- **Basic tasks:** Free dictionary apps like TFlat and Google Translate were commonly used for quick word look-ups or detecting basic errors.
- **Complex tasks:** AI-powered tools (e.g., ChatGPT) were preferred for nuanced tasks requiring contextual understanding or natural-sounding output.

In summary, students did not view translation tools as replacements for human translators but as **valuable assistants** that support the translation process and improve output quality.

B. Perceived Benefits for Self-Correction and Language Development

Participants widely recognized the role of translation tools in enhancing their self-correction ability and linguistic awareness.

Nhan and Thien noted that repeated use helped them internalize corrections and reduce common errors like subject-verb disagreement and plural-singular mismatches.

Thuy Oanh highlighted the utility of automated grammar checks:

"The grammar checking feature is the most useful—it helps me avoid small, overlooked mistakes."

An reflected on how comparing her drafts with the tool suggestions improved her expression and fluency:

"Seeing alternative phrases in the tool's output helps me rephrase my ideas better."

Yen Vy and Khang elaborated on this, emphasizing how the tools function as feedback providers:

"The tool lets me see what's wrong and how to say it better," said Khang.

"It pushes me to polish the work more before submitting," added Yen Vy.

Phuong expressed increased confidence in revising sentence structures after observing the tools' suggestions:

"I feel more capable of adjusting my wording after using the tool's feedback."

In general, students viewed the tools as learning companions that fostered autonomy, reflection, and ongoing improvement in their translation performance.

C. Challenges and Limitations

Despite positive perceptions, several **limitations** were identified:

a. Contextual and Structural Errors

Free tools were often criticized for **literal, word-by-word translations** lacking contextual appropriateness.

Nhan noted:

"The tools sometimes miss the bigger picture—like idioms or cultural references."

Thien added:

"They may give grammatically correct sentences, but the meaning can still be wrong or awkward."

An and Phuong reported occasional unnatural phrasing and lack of coherence, particularly in longer texts. Meanwhile, Yen Vy and Khang highlighted failures in handling specialized terms or idioms, which aligned with the lower quantitative ratings for advanced error detection.

b. Pedagogical Limitations

A key concern was the lack of explanation for the corrections provided.

Yen Vy pointed out:

"Translating a long passage without explanation is unnecessary. Even if it's fluent, I don't learn anything from it."

This reflects a pedagogical deficit: the tools act as correctors but not as teachers, offering limited educational value beyond surface-level corrections.

c. Cost and Premium Feature Expectations

Phuong noted:

"Some suggestions distorted the intended meaning or lacked coherence."

While all participants relied on free versions of translation tools, none were currently willing to pay for premium access. However, several students expressed interest in premium features that could provide:

- Context-specific academic translations
- Detailed grammar explanations
- User-customized feedback

Such features were seen as potentially more valuable for deep learning, rather than just functional correction.

d. Summary of Qualitative Findings

The interviews revealed that students generally viewed translation tools as effective aids in their translation learning process. Key benefits included:

- Enhanced awareness of grammatical mistakes
- Support for self-correction and revision
- Improved fluency through comparative learning

However, students remained cautious about over-relying on these tools. They recognized significant limitations related to contextual accuracy, idiomatic expression, and the lack of instructional feedback.

As Nhan summarized:

"Translation tools are good for support, but I still need to think and revise by myself to improve."

To sum up, these qualitative insights complemented the quantitative findings, reinforcing the notion that while translation tools are useful and well-regarded, they should be integrated critically and reflectively into the learning process—not used as substitutes for human judgment or instruction.

4.3 Discussion

4.3.1 Theoretical Significance

Findings from both the quantitative and qualitative analyses revealed that EFL students at Can Tho University, Vietnam, generally held positive perceptions toward the use of translation tools in their translation tasks. Most participants agreed that these tools enhanced translation accuracy, facilitated error detection, and supported self-correction. Quantitative results showed moderate to high agreement, with mean scores ranging from 3.19 to 4.32, suggesting that students viewed translation tools as valuable assistants, not as replacements for human translators. This sentiment was echoed in the interviews, where students emphasized the usefulness of grammar and spelling checks, the convenience of instant suggestions, and the role of such tools in promoting reflective learning. However, several participants expressed reservations about the contextual accuracy of machine translation, noting that automated outputs could sometimes result in unnatural phrasing or misinterpretation of meaning.

These findings hold significant theoretical value, particularly within the framework of the Noticing Hypothesis (Schmidt, 1990). This hypothesis posits that second language acquisition occurs when learners consciously notice gaps between their language output and the target form. In the present study, translation tools acted as noticing facilitators, helping learners become more aware of their grammatical or lexical errors and encouraging reflective self-correction.

The results also support the theory of Learner Autonomy (Holec, 1981; Lee, 2020), as students demonstrated increased responsibility for their learning. By comparing their own translations with machine-generated suggestions, learners engaged in metacognitive decision-making—choosing when to accept, reject, or modify automated outputs. This process reflects a shift from passive reception to active, critical engagement, indicating that translation tools have pedagogical potential to develop self-directed learning behaviors and critical thinking skills in translation practice.

In addition, the study aligns with O'Brien's (2021) Post-Editing Framework, which emphasizes the role of machine translation tools as pedagogical aids rather than substitutes for human judgment. The participants' awareness of the tools' limitations—and their caution against overreliance—demonstrated a nuanced understanding of the importance of human evaluation in ensuring contextual appropriateness and stylistic coherence. As such, the findings contribute to theoretical discussions about the human-machine interface in translation, illustrating how digital tools can scaffold reflective learning without diminishing the role of human cognition.

4.3.2 Alignment with Previous Research

The findings of this study are consistent with previous research on translation technologies and EFL learning. For example, Garcia (2019) reported that machine translation supports learners in developing linguistic awareness and grammatical accuracy—findings that were reaffirmed in this study, where students highlighted how translation tools helped them identify and correct recurring errors.

Similarly, the positive attitudes observed among CTU students echoed the results of Nguyen and Do (2023), who found that Vietnamese EFL learners appreciated AI-based translation aids for improving translation productivity and confidence. However, unlike the participants in Lee (2020), who exhibited high dependence on machine-generated output, students in this study displayed greater caution and critical engagement. Rather than accepting machine suggestions at face value, many students actively cross-checked, edited, and refined outputs to align with context and intended meaning.

This distinction may be attributable to the pedagogical approach at Can Tho University, which places emphasis on human post-editing and evaluative thinking in translation instruction. As such, the CTU students' responses reflected an understanding aligned with O'Brien (2021), who asserted that machine translation output requires careful post-editing to ensure fluency, coherence, and naturalness—especially in cases where tools fail to process idiomatic language or complex structures.

Together, these findings reinforce the growing scholarly consensus that translation technologies can support language learning and translation competence, provided they are used critically and reflectively rather than mechanically or dependently.

Pedagogically, the findings suggest that translation tools can be effectively integrated into translation instruction to foster self-correction, reflective awareness, and autonomous learning. For educators, this means designing activities that incorporate guided post-editing tasks, where students are required to analyze machine-generated translations, identify linguistic or structural weaknesses, and make necessary revisions to improve naturalness and coherence. For learners, the ability to evaluate and adjust machine suggestions is an essential skill that balances technological support with human reasoning. Developing this skill can help students move beyond surface-level corrections and deepen their understanding of grammatical structures, idiomatic usage, and stylistic choices.

Importantly, students in this study did not treat translation tools as shortcuts, but as scaffolds that support the learning process. As such, educators should frame these tools as part of a broader translational skillset, where digital literacy, critical thinking, and linguistic knowledge work in tandem.

In conclusion, the findings of this study underscore the role of translation tools as effective aids in supporting students' linguistic awareness, error detection, self-correction, and independent learning. The study's outcomes are consistent with several theoretical frameworks, including the Noticing Hypothesis, Learner Autonomy, and the Post-Editing Framework, and align with current empirical research on translation and technology-assisted learning.

Translation tools were perceived not as replacements for human translators but as complementary companions that promote reflective learning, critical thinking, and autonomous skill development. These insights contribute meaningfully to the theoretical and pedagogical discourse on translation education in EFL contexts—particularly within the Vietnamese higher education landscape.

5. Conclusion and Implications

5.1 Summary of the Major Findings

This study examined how translation tools impact EFL students' self-correction in translation tasks at Can Tho University, Vietnam, focusing on students' perceptions and the tools' role in promoting reflective revision. As a result, both quantitative and qualitative findings showed that students held generally positive perceptions of translation tools. Most agreed that the tools helped identify grammatical and lexical errors, improved translation accuracy, and supported their revision process. Mean scores (3.19–4.32) reflected moderate to high agreement, positioning translation tools as useful aids, not substitutes for human translators. Interview data reinforced this, showing that the tools encouraged students to review, compare, and refine their translations more thoughtfully. Regarding the first research question on student perceptions, learners valued the convenience, speed, and error correction features of translation tools. However, some noted limitations, such as unnatural phrasing and poor handling of context. This indicated a balanced, critical approach to tool use.

For the second research question on the tools' effect on self-correction, the findings showed that students used them to notice and evaluate errors, aligning with Schmidt's Noticing Hypothesis. The tools supported metacognitive skills, allowing students to compare translations, reflect on alternatives, and take ownership of revisions—consistent with the Learner Autonomy Theory (Holec, 1981; Lee, 2020). Their critical use of the tools also supported O'Brien's (2021) Post-Editing Framework, emphasizing that human evaluation remains essential.

In conclusion, translation tools were found to enhance EFL students' accuracy, awareness, and self-correction ability. Used critically, these tools act not just as language aids but as pedagogical tools that foster independent learning and reflective practice in translation education.

5.2 Practical Implications

The results of this study provide meaningful insights for foreign language education, particularly translation training programs at Can Tho University and similar institutions. Students demonstrated strong consensus regarding the usefulness of translation tools in improving basic error detection and revision, as reflected in the high mean scores for grammatical and semantic correction (V10–V12; $M > 4.05$). These findings suggest that translation tools have been fully legitimized as integral components of students' independent learning routines rather than peripheral reference aids.

5.2.1 Implications for Instructors and Curriculum Designers

Given the clear pedagogical benefits of translation tools at the surface level, instructional strategies should focus not on prohibiting tool usage but on harnessing it more strategically. Rather than emphasizing raw translation production, classroom activities should be redesigned toward guided post-editing, where students critique and refine machine-generated output.

Furthermore, a noticeable performance gap was observed between basic and advanced error categories, particularly in cultural and discourse-related aspects (V18: $M = 3.6113$, the lowest among all items). This highlights the need for explicit instructional focus on higher-level errors. Teachers could incorporate comparative exercises in which students analyze why tools fail in context-dependent scenarios such as idioms, register shifts, or culturally sensitive wording.

Additionally, the discrepancy between self-initiated error detection (V19: $M = 4.1359$) and actual understanding of error causes (V20: $M = 3.9774$) suggests that tools reinforce surface-level alertness but do not automatically cultivate deep metalinguistic awareness. To bridge this gap, instructors may require learners to provide written justifications for accepting or rejecting AI-generated corrections. Such reflective tasks would reposition translation tools from being merely error fixers to becoming analytical scaffolds that foster metacognitive development.

5.2.2 Implications for Translation Tool Developers

The qualitative data indicated that students were generally satisfied with free versions of tools but expressed willingness to pay for upgraded models offering context-aware academic translation and explicit correction explanations. This points toward a demand for explainable AI translation systems that clarify the grammatical or pragmatic rationale behind each suggestion.

Developers should therefore prioritize the integration of explanatory feedback mechanisms, transforming translation tools into AI-assisted tutors rather than silent correctors. In addition, improvements in academic terminology handling, discourse cohesion, and cultural sensitivity are necessary, as these were the domains in which users perceived the greatest inconsistency and error.

5.3 Practical Recommendations

Based on the observed differentiation in tool effectiveness and the identified “metacognitive gap” in students’ self-correction processes, several recommendations are proposed for both educators and translation tool developers.

5.3.1 For Instructors and Curriculum Designers

5.3.1.1 Formalizing the Role of Translation Tools

Rather than treating translation tools as a form of academic misconduct, instructors should officially recognize them as mandatory learning aids. Translation assignments can be restructured to require students to submit revision histories or side-by-side comparisons

between human-generated and machine-generated translations, thereby shifting the focus from raw output to analytical refinement.

5.3.1.2 Teaching Critical Evaluation Instead of Mere Translation

The instructional emphasis should move from producing translations to assessing and refining machine-generated drafts. Purposefully flawed translations, especially those containing cultural or discourse-level errors, can be provided for diagnostic post-editing tasks, allowing students to justify their revisions and develop higher-level evaluative judgment.

5.3.1.3 Implementing Mandatory Justification Mechanisms

To address the discrepancy between error detection (V19) and error comprehension (V20), students should be required to offer written justifications for at least three correction decisions per assignment. This encourages a cognitive shift from passive tool reliance to active error reasoning.

5.3.2 For Translation Tool Developers

5.3.2.1 Integrating Explanatory Feedback

Students expressed willingness to pay for premium versions only if they offer explicit linguistic rationales behind corrections. Thus, translation tools should incorporate explainable AI functions that clarify why a specific lexical or syntactic change is suggested (“Use “lựa chọn” instead of “chọn” (choice) to match formal academic tone.” *Vietnamese versions*).

5.3.2.2 Enhancing Cultural and Discourse-Level Processing

Given that the lowest mean scores were associated with cohesion, coherence, and cultural appropriateness, developers should prioritize context-sensitive modeling capable of operating beyond sentence boundaries. Improving discourse-level reasoning would address one of the most persistent weaknesses reported by learners.

5.3.2.3 Supporting Multi-Format Academic Workflows

Practical adoption can be further improved by enhancing compatibility with Word, PDF, and other academic formats while preserving layout integrity, allowing translation tools to function seamlessly within students’ real-world assignment workflows.

5.4 Limitations and Future Research

Although the mixed-methods design yielded valuable insights, several limitations should be acknowledged when interpreting the findings.

5.4.1 Limitations

First, the study relied on a convenience sample of 80 third-year English majors from a single institution (Can Tho University). While adequate for exploratory analysis, the results may not be fully generalizable to learners from different academic disciplines or educational contexts.

Second, both the survey and interview data were based on self-reported perceptions, which may be subject to social desirability bias. Participants might have overstated the benefits or understated the drawbacks of translation tools due to perceived expectations.

Third, the study focused on perceived improvement rather than actual performance outcomes. No empirical comparison of translation quality before and after tool usage was conducted, nor was self-correction ability objectively measured under experimental control.

5.4.2 Future Research Directions

Future studies could adopt experimental pre–post designs to quantitatively assess the impact of tool-assisted instruction versus traditional methods on self-correction performance. Additionally, product-based error analysis should be conducted on authentic translation outputs to determine both the reduction of existing errors and the emergence of machine-induced errors.

Further research should also expand the participant pool to include students from different institutions or non-English majors, and potentially professional translators, to enable comparative analysis of tool reliance across proficiency and experience levels.

Acknowledgments

First and foremost, the authors would like to express their heartfelt gratitude to the faculty of the School of Foreign Languages, Can Tho University (CTU), Vietnam, for their valuable instruction and guidance in both teaching and research methodologies. Secondly, sincere thanks are extended to the 82 English-major students who generously contributed their time and insights by participating in the questionnaire and semi-structured interviews. The authors also wish to express their deep appreciation to Ms. Thai Phan Bao Han, English teacher, for her kind assistance in proofreading, language refinement, and formatting throughout the preparation of this paper. Finally, the authors respectfully thank the Editorial Board of the *European Journal of Multilingualism and Translation Studies* for the opportunity to share this research with a global audience—particularly educators and researchers interested in English language teaching and learning, and in the use of translation technology to support students in producing more effective target language output.

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Conflict of Interest Statement

The author declares no conflicts of interest.

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