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How AI Benefits Student Translators: An Exploratory Study on the Impact of ChatGPT Feedback on Translation Proficiency

Chunwen Yang [1] **, *Jing Chen*** [1] **, *Shuai Hou*** [2] **, *Walton Wider*** [3,4,5*] **, *Wai Lei Yi*** [3]

[1] *School of Advanced Translation and Interpretation, Dalian University of Foreign Languages, Dalian 116044, China*

[2] *School of English Studies, Dalian University of Foreign Languages, Dalian 116044, China*

[3] *Faculty of Business and Communications, INTI International University, Nilai 71800, Malaysia*

[4] *Department of Applied Economic Science, Wekerle Sándor Üzleti Főiskola, 1083 Budapest, Hungary*

[5] *Faculty of Management, Shinawatra University, Pathum Thani 12160, Thailand*

ABSTRACT

With the increasing integration of artificial intelligence (AI) in translation training, ChatGPT has become a widely used tool among student translators to enhance their translation proficiency. However, while ChatGPT offers instant feedback and suggestions, its effectiveness in improving translation skills and its limitations remain unclear. Existing research has primarily focused on AI's role in professional translation, with limited studies examining its impact on student translators. This study aims to explore how student translators leverage ChatGPT feedback to enhance their translation proficiency. Underpinned by Social Constructivism theory, the study was conducted through an electronic survey administered via Wenjuanxing to translation students (n = 45). Using thematic analysis, the study revealed five key themes: (1) Frequency of Use, (2) Prompts for Use, (3) Perceived Usefulness, (4) Challenges and Limitations, and (5) Impact on Attitudes, Skills, and Thinking. The study shows that while students found ChatGPT useful for refining translations and improving proficiency, concerns about accuracy, over-reliance, and translation ethics also persisted. These findings contribute to a better understanding of AI-assisted translation learning and highlight the need for a balanced approach that combines AI

*CORRESPONDING AUTHOR:

Walton Wider, Faculty of Business and Communications, INTI International University, Nilai 71800, Malaysia; Department of Applied Economic Science, Wekerle Sándor Üzleti Főiskola, 1083 Budapest, Hungary; Faculty of Management, Shinawatra University, Pathum Thani 12160, Thailand; Email: walton.wider@newinti.edu.my

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support with human critical thinking. They provides insights for educators to optimize AI integration in translation training, ensuring students develop both technological proficiency and essential translation skills.

Keywords: ChatGPT Feedback; Translation Proficiency; Student Translators; Artificial Intelligence in Translation; Social Constructivism; Education Policy

1. Introduction

The rapid development of artificial intelligence (AI) and large language models (LLMs) such as ChatGPT has ushered in a new era for language education [1,2]. These technologies, underpinned by advances in deep learning and natural language processing, have transformed how learners access, process, and produce language [3]. In translation education, the integration of AI-powered tools has enabled student translators to generate, analyse, and refine translations more efficiently than ever before [4,5]. AI tools are increasingly being used to support autonomous learning, enhance translation accuracy, and facilitate instant feedback, presenting a wealth of opportunities for students and educators alike to innovate their teaching and learning practices [6].

Despite these advancements, the use of AI-driven technologies in translation education also presents significant challenges and uncertainties [7]. Key questions remain regarding the extent to which tools like ChatGPT can replace or supplement human translation trainers, particularly in providing detailed, personalized, and constructive feedback [8]. Concerns persist about the reliability of AI-generated translations, potential overreliance on technology, limitations in cultural and contextual understanding, and the risk of undermining critical thinking or creative problem-solving among students [9]. As the field of language education rapidly evolves in response to these technologies, it becomes increasingly important to explore the actual impact, limitations, and pedagogical implications of AI-assisted translation tools. Addressing these challenges is essential for guiding the responsible and effective integration of AI into translation training programs.

1.1. Literature Review

The advent of AI, particularly LLMs such as ChatGPT, has initiated a transformative wave in translation education by reshaping how student translators receive feedback, develop skills, and engage with authentic translation tasks [10–14]. Recent studies have demonstrated that AI-driven tools offer student translators immediate access to diversified linguistic input, tailored feedback, and opportunities for self-directed learning [15–17]. Within classroom settings, ChatGPT's real-time interactivity allows learners to experiment with different translation strategies, solicit critical evaluations of their work, and address gaps in vocabulary or grammatical competence, thereby fostering a more autonomous and reflective translation practice [18,19]. Such benefits are complemented by AI's ability to support activity-based and student-centered learning, as feedback from ChatGPT can serve as scaffolding that adapts to the student's evolving proficiency level [20,21].

Nevertheless, the literature highlights that the impact of AI-generated feedback on translation proficiency requires cautious consideration, as the quality and pedagogical value of ChatGPT's feedback are not without limitations. Amaro and João Pires [22], Darwin et al. [23], and Falempin and Ranadireksa [24] have noted that while AI tools can efficiently identify linguistic errors and offer translation alternatives, they may lack the depth needed for addressing cultural subtleties, idiomatic expressions, and higher-order problem-solving skills vital for professional translation. Additionally, Gammoh [25], Khup and Bantugan [26] have raised concerns about student over-reliance on AI, reduced critical thinking, and the risk of feedback being formulaic or contextually inappropriate. Moreover, empirical evidence suggests that, despite notable improvements in surface-level proficiency and workflow efficiency, student translators still require guided reflection and human mentorship to develop holistic translation competence and professional judgment [19,27].

Consequently, best practices in translation education increasingly emphasize the need for a collaborative approach that strategically integrates AI tools as a feedback partner while maintaining the central role of human instructors [28,29]. Recent research suggests that combining the rapid, personalized feedback capabilities of AI with human-led critical

discussion, error analysis, and contextual guidance leads to deeper learning outcomes and more robust translation proficiency [21,30]. Ultimately, as the impact of ChatGPT feedback continues to be explored, future directions point toward refining feedback loops, embedding ethical guidelines, and harnessing AI as a scaffold for critical thinking and reflective practice, rather than as a substitute for the diverse expertise provided by translation trainers [19,24,31]. This balance is crucial to ensure that student translators not only benefit from AI-driven efficiency but also develop the higher-order skills necessary for success in complex, real-world translation scenarios.

1.2. Research Questions

Despite the increasing integration of AI tools in language and translation education, several research gaps remain evident in the current literature. Most existing studies have focused on the technological capabilities of AI or its general impact on language learning outcomes, often neglecting the pedagogical implications and real-world usage patterns in translation-specific contexts [16,22]. Additionally, while the feedback potential of LLMs has been recognized, few studies have systematically explored how student translators engage with ChatGPT-generated feedback during authentic translation practice, especially in relation to self-directed learning, critical reflection, and skill development [19,20]. Furthermore, methodological approaches have often been quantitative or technologically driven, with limited qualitative and exploratory inquiry into students' lived experiences, attitudes, and the contextual factors shaping their engagement with AI [32]. There is also a lack of research grounded in social constructivist theory that critically examines how AI-mediated interactions function as scaffolding within the zone of proximal development for student translators.

In response to these gaps, the present study aims to provide an in-depth, constructivist-informed exploration of how ChatGPT is used as a feedback tool by student translators and what impact this has on their translation proficiency, learning process, and professional development. Social constructivism, as articulated by Vygotsky [33], emphasizes learning as an active, collaborative process where knowledge is co-constructed through meaningful interactions with peers, teachers, or technological tools. Through constructivist learning theory, the present study strives to investigate the observable behaviours such as frequency and types of ChatGPT use, and also the cognitive and attitudinal shifts experienced by student translators as they interact with AI feedback. This approach frames ChatGPT as a potential more knowledgeable other (MKO) that may scaffold learners' translation development. Thus, the following research questions guide this exploratory study:

RQ 1: How frequently do student translators use ChatGPT in their translation practice?

RQ 2: What types of prompts do student translators typically use when interacting with ChatGPT for translation-related tasks?

RQ 3: How do student translators perceive the usefulness of ChatGPT in improving their translation skills and proficiency?

RQ 4: What challenges and limitations do student translators encounter when using ChatGPT for translation tasks?

RQ 5: How does using ChatGPT impact student translators' attitudes, thinking, and development of translation competence?

2. Materials and Methods

2.1. Research Design

The primary objective of this study is to explore how translation major students engage with ChatGPT to enhance their translation proficiency. Specifically, the research aims to investigate their usage patterns, the types of prompts employed, perceived usefulness, challenges encountered, and the impact of ChatGPT on their translation skills, attitudes, and critical thinking. Instead of testing ChatGPT's translation accuracy, the present study focuses on how student translators use ChatGPT either as a direct translation tool or as a translation consultant. A qualitative research design was adopted to gain in-depth insights into participants' lived experiences and perspectives [34]. Data were collected through an electronic, open-ended survey distributed via Wenjuanxing, allowing participants to reflect on and describe both modes of using ChatGPT. This approach facilitated the collection of rich, context-specific data, capturing how students' experiences and perceptions varied according to the specific goals and roles they assigned to ChatGPT during their translation practice.

2.2. Participants and Data Collation

Data for this study were collected from translation major students at the School of Advanced Translation and Interpretation, Dalian University of Foreign Languages. The open-ended electronic survey was administered via Wenjuanxing, a widely used online survey platform in China, during the period of December 1st to December 31st, 2024. The survey link was distributed through a QR code in the classroom discussion chatroom on WeChat, as well as through personal contact. Specifically, the invitation was sent to all students in the second-year undergraduate Bachelor of Translation and Interpreting (BTI) class one (34 students) and the first-year graduate Master of Translation and Interpreting (MTI) class (36 students), totalling 70 recipients.

In the end, 45 students completed the survey, resulting in a response rate of 64.29%. The final sample comprised 15 undergraduate students from the BTI program and 30 graduate students from the MTI program. Among these participants, 12 were male and 33 were female, with ages ranging from 20 to 25. All respondents had engaged in Chinese-to-English translation tasks using ChatGPT for at least four months prior to participating in the study. Purposive sampling was employed to identify students with direct and sustained experience of leveraging ChatGPT in their translation learning, ensuring the sample could provide rich and relevant insights[35]. While the sample size of 45 may appear modest, it is appropriate for qualitative research; as Guest et al.[36] note, thematic saturation is often reached within the first twelve interviews, and a sample of this size enables the identification of key patterns while capturing the diversity of student experiences.

2.3. Instruments

The primary instrument used for this study was a semi-structured electronic survey questionnaire, delivered through Wenjuanxing[37]. Adapted from Abdelhalim et al.[38], the survey included open-ended questions designed to elicit participants' experiences and perspectives on using ChatGPT for translation. Specifically, the questions covered the following five areas: (1) frequency of ChatGPT use for translation tasks, (2) types of prompts used to engage with ChatGPT, (3) perceived usefulness of ChatGPT's feedback, (4) challenges and limitations encountered during use, and (5) perceived impact on students' attitudes, translation skills, and cognitive approaches.

The survey did not prescribe specific translation assignments; rather, it was designed to elicit students' authentic experiences using ChatGPT for Chinese-to-English translation across diverse contexts, including coursework, self-directed learning, and real-world application. This approach enabled the study to reflect a broad range of translation contexts and text types such as literary, technical, academic, and pragmatic translation, thus aligning with the study's exploratory aims. To ensure the content validity of the instrument, the questionnaire was reviewed by two domain experts in translation studies and educational technology. Based on their suggestions, minor revisions were made to enhance clarity and relevance. The final survey was composed in English, accompanied by Chinese subtitles to accommodate varying levels of linguistic comfort and to ensure accurate understanding of the questions.

2.4. Data Analysis

Thematic analysis was employed to analyse the qualitative data, complemented by descriptive statistical analysis for closed-ended responses. For open-ended survey items, all responses were first reviewed for completeness. Where responses were written in Chinese, they were translated into English using ChatGPT-4.0, and all translations were carefully reviewed and validated by the author to ensure accuracy and contextual alignment. As suggested by Rico and González Pastor[39] and Wiltshire and Ronkainen[40], the present study followed a systematic thematic analysis process: familiarization with the data, initial coding of meaningful units, and the development of overarching themes and sub-themes such as frequency of use, prompts for use, perceived usefulness, challenges and limitations, and impact on attitudes, skills, and thinking. This method allowed for a comprehensive and flexible interpretation of participants' experiences. To further support the analysis, conceptual maps were generated using ATLAS.ti, which helped visualize key concepts and their relationships, enhancing the clarity and rigor of the findings[41].

2.5. Ethics

The present study involved human participants and was approved by Dalian University of Foreign Languages. It was

conducted in accordance with the local legislation and institutional requirements and all participants provided their informed consent to participate in this study.

3. Results

3.1. Overview

Thematic analysis identified five themes (see **Table 1**). The first theme, Frequency of Use, reflects the degree to which participants utilize ChatGPT in academic and personal contexts, with differing patterns from occasional to daily use. The second theme, Prompts for Use, suggests the variety of prompt types, including direct translation prompts, feedback or evaluation prompts, strategy-based prompts, and prompts for post-editing and comparative analysis. The third theme, Perceived Usefulness, includes several benefits that students gained through interaction with ChatGPT in translation training. The fourth theme, Challenges and Limitations, includes such concerns as incorrectness in cultural or domain-specific content, overreliance, checking necessities, accessibility and tool-related issues. Finally, the theme Impact on Attitudes, Skills, and Thinking illustrates how ChatGPT facilitates openness to AI, critical thinking, reflective practice, and confidence enhancement, while also reaffirming the human as a creative role in translation.

3.2. Frequency of Use

As illustrated in **Figure 1**, the frequency of ChatGPT use for translation tasks varied notably between BTI and MTI students. Among the 15 BTI students, 3 (20.0%) reported using ChatGPT daily, 5 (33.3%) used it weekly, and 7 (46.7%) used it only occasionally. In contrast, among the 30 MTI students, 15 (50.0%), a larger proportion used ChatGPT daily, 11 (36.7%) reported weekly use, and only 4 (13.3%) used it occasionally. Overall, these results indicate that MTI students are more likely to integrate ChatGPT into their daily translation practice compared to BTI students, suggesting that advanced students may rely more heavily on AI tools as part of their regular academic and professional workflow. Conversely, BTI students tend to use ChatGPT more sporadically, possibly reflecting their earlier stage in translation training or varying familiarity with AI-assisted translation tools.

Table 1. Thematic Analysis Results.

Theme	Sub-theme
Frequency of Use	• Coursework-Driven Use • Personal Practice • Varying Usage Patterns
Prompts for Use	• Direct Translation Requests • Requests for Feedback/Evaluation • Translation Strategy Guidance • Cultural/Linguistic Clarification • Post-Editing Assistance • Comparative Prompts
Perceived Usefulness	• Efficiency and Time-Saving • Improved Awareness of Terminology and Grammar • Limited Skill Development • Assistance in Structuring and Clarity • Boost in Self-Editing Abilities
Challenges and Limitations	• Cultural and Contextual Inaccuracy • Over-Reliance and Skill Erosion • Inconsistent or Literal Output • Technical and Domain-Specific Weakness • Verification Burden • Accessibility
Impact on Attitudes, Skills, and Thinking	• Greater Openness to AI Integration • Enhanced Analytical Thinking • Shift Toward Reflective Translation Practice • Confidence Building • Increased Awareness of Translation as a Creative Task

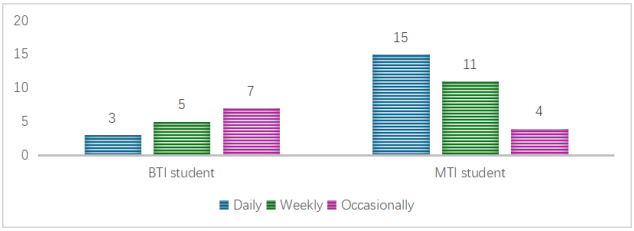

Figure 1. Respondents' frequency of use of ChatGPT for translation tasks (N = 45).

Qualitatively, a significant number of participants (e.g., P6, P18, P21, P24, P27, P45) reported using ChatGPT on a daily basis, often for coursework and personal translation practice. For instance, one participant noted, "*almost every day I do translation practice, I will use ChatGPT*", indicating high integration of the tool into their daily academic workflow. Others (e.g., P12, P15, P33, P36, P42) used ChatGPT weekly, typically when handling complex tasks or needing support with specialized terminology. This group viewed ChatGPT as a supplementary tool to assist in verifying vocabulary or enhancing stylistic fluency. In contrast, a smaller group (e.g., P3, P9, P30, P39) used ChatGPT occasionally, mostly in coursework-related contexts when facing particularly difficult content, such as "*academic abstracts*" or "*tourism-related materials*". Notably, all participants primarily used ChatGPT for coursework, with many also applying it in personal translation practice. These usage patterns suggest that frequency is often influenced by task complexity, learning needs, and personal translation confidence.

3.3. Prompts for Use

Student translators use a diverse range of prompts when interacting with ChatGPT, which can be broadly categorized into six subtypes: direct translation requests, translation strategies guidance, cultural or linguistic clarification, feedback or evaluation request, comparative prompts and scoring and post-editing assistance. Detailed prompts were presented in **Table 2**.

Table 2. Prompts used by student translators (N = 45).

Types of Prompts	Examples from Participants
Direct Translation Requests	1. Please translate the following passages, using the strategies like domestication or foreignization. 2. Please translate the following sentence from Chinese into English "□□□□□□□□□□□". 3. Translate this passage into Chinese, maintaining a formal style suitable for academic publishing. 4. Translate this poem into English, preserving its rhythm and rhyme as closely as possible. 5. Give me an accurate English translation of this abstract paragraph from a Chinese academic article. 6. What's a suitable English translation for "□□□□" considering different contexts? 7. How do I translate colloquial Chinese expressions naturally into conversational English without losing their original humor or emotion?
Translation Strategy Guidance	1. Please give 5 different English translations and explain each of them based on the principles and strategies of translation. 2. What strategy should I follow to translate Chinese cultural metaphors accurately into English? 3. Could you provide guidelines on translating classical Chinese poetry into modern English? 4. Give me some practical advice on translating Chinese academic jargon into clear and readable English. 5. What's the best approach to translating promotional slogans from Chinese into English for a Western audience? 6. Could you outline some tips on translating Chinese cuisine names to make them appealing yet understandable in English? 7. Can you help clarify how to translate "□□□□" accurately into English for academic papers versus policy briefs? 8. Could you suggest reliable English equivalents for common political terms often seen in Chinese official documents?

Table 2. *Cont.*

Types of Prompts	Examples from Participants
Cultural/Linguistic Clarification	1. How would you translate this idiom into natural English? "□□□□" 2. I translated the following cultural reference. Does it clearly communicate the meaning to English speakers? 3. Please help me evaluate whether my translated subtitles for this Chinese video clip are easy to understand and culturally accurate. 4. How can I effectively handle Chinese idioms when translating to ensure they resonate with English readers? 5. Could you explain the differences between two English translations of this Chinese phrase? 6. Suggest different English translations for the Chinese term "□□" and explain which contexts suit each translation.
Feedback/Evaluation Requests	1. Here is my translated English version of…, please based on the translation criteria put forward by Yanfu, give me a critical and comprehensive feedback or evaluation for it, also please give me some suggestion revisions. 2. Below is my translation of a Chinese literary excerpt. Does it sound natural in English? Please offer feedback. 3. I've translated this Chinese slogan into English as …. Could you evaluate its appropriateness and suggest better alternatives if needed? 4. Review my English translation of this classical Chinese poem. Did I effectively preserve its literary essence? 5. Evaluate my translation of this Chinese literary piece. Highlight strengths and suggest areas for improvement. 6. Please provide a detailed evaluation of my translation of a Chinese social media post, focusing on accuracy, readability, and cultural differences. 7. Is my translation of this Chinese proverb effective in capturing its meaning and tone in English? Provide your evaluation. 8. Critique my translation of this marketing brochure from Chinese to English, considering both linguistic accuracy and audience appeal.
Comparative Prompts and Scoring	1. Can you grade my translation (out of 10) of this academic abstract and explain your evaluation? 2. How accurate and idiomatic is my translation of this Chinese idiom into English? Explain your reasoning.
Post-Editing Assistance	1. Here's my translation of a short paragraph. Can you check it for fluency and suggest improvements? 2. Can you help me revise my translation to improve clarity and naturalness? 3. Could you review this translation and identify parts that sound unnatural to native speakers?

Many participants (e.g., P3, P9, P12, P15, P42, P45) commonly used ChatGPT for direct translations, especially when facing complex or time-sensitive tasks. For instance, one participant stated they would input "*Translate this passage into Chinese, maintaining a formal style suitable for academic publishing*", showing their use of prompts focused on context-appropriate rendering. Other participants frequently asked for feedback and evaluations on their own translations. For example, P2 used prompts like "*please based on the translation criteria put forward by Yanfu, give me a critical and comprehensive feedback*". Similarly, P12 reported asking ChatGPT to "*grade my translation... and explain your evaluation*", demonstrating how feedback requests helped refine their translation practices. These examples reveal that ChatGPT is not only used for producing translations but also as a tool for improving translation quality through critical feedback.

Moreover, some participants leveraged prompts to explore translation strategies or gain clarification on cultural or linguistic variations. For example, P15 asked ChatGPT to "*suggest different English translations for the Chinese term? '□□' and explain which contexts suit each translation*", indicating strategic and contextual use of AI. Others used prompts to seek guidance on how to translate idioms or culturally embedded terms, as illustrated by P10, who asked, "*how can I effectively handle Chinese idioms... to*

ensure they resonate with English readers?". Post-editing assistance also emerged as a common use case, with participants like P6 using prompts such as "*Can you check it for fluency and suggest improvements?*". In some cases, participants used comparative prompts to evaluate alternative translations before deciding on the most suitable version. These varied prompt types suggest that student translators are using ChatGPT as a static translation engine and at the same time, engaging in interactive, iterative, and reflective translation practices that mirror professional workflows.

3.4. Perceived Usefulness

For most of the respondents, ChatGPT is perceived as a useful and supportive tool in translation tasks, particularly in enhancing efficiency and providing immediate linguistic assistance. Many respondents acknowledged the tool's ability to reduce time spent on initial drafts and facilitate smoother workflows. For instance, P9 noted that ChatGPT "*significantly reduced the time I spent translating lengthy or complex texts*", while P27 emphasized its benefit in "*generating initial translations swiftly, allowing more time for stylistic polishing*". Additionally, several participants found ChatGPT helpful for lexical improvement and grammatical accuracy. P1 mentioned that the tool assists in "*offering technical terms, lexical options and grammar correction*" and P18 similarly valued how ChatGPT "*helped verify translations of technical terms or jargon*". These responses suggest that the perceived usefulness lies primarily in ChatGPT's ability to serve as a first-pass translator and language support tool, improving both speed and surface-level accuracy in translation tasks. **Figure 2** demonstrates the conceptual map of participants perceived usefulness.

Figure 2. World cloud map of perceived usefulness by ATLAS.ti.

However, while most participants acknowledged these practical benefits, many also pointed out that ChatGPT does not necessarily contribute directly to deep skill development. For example, P3 remarked that "*it just helps me deal with the translation tasks... it cannot teach me how to master the translation skills*", highlighting a clear distinction between task assistance and skill acquisition. Others echoed this view, suggesting that ChatGPT functions more as a productivity enhancer than a tutor. At the same time, some participants did perceive indirect benefits to their translation proficiency. P6 reflected that ChatGPT "*guided me how to break down long and complicated sentences*" and P8 noted an improvement in handling idiomatic expressions through "*multiple viable translation strategies*". These insights indicate that while ChatGPT's perceived usefulness is often linked to surface-level improvements and convenience, it can

also foster self-awareness, analytical thinking, and strategic decision-making in translation, depending on how actively and reflectively it is used.

3.5. Challenges and Limitations

As demonstrated in **Figure 3**, student translators find several key areas where ChatGPT falls short in translation. The most frequently cited challenge was handling technical or specialized terminology, mentioned by 24 respondents (53%), underscoring persistent difficulties in translating subject-specific vocabulary accurately. Literary translation was another major problem area, identified by 21 participants (47%), highlighting issues with capturing nuance, style, and context. Cultural references and metaphors were also problematic, cited 18 times (40%), reflecting ChatGPT's limitations in interpreting culturally embedded meanings.

In addition, ChatGPT was also found to have poor translation performance when dealing with idiomatic or symbolic language (15 mentions, 33%), historical or classical texts (9 mentions, 20%), and humor, irony, or sarcasm (9 mentions, 20%). This reveals its weakness in generating creative or context-dependent translation. Additional concerns included dialect or regional language (6 mentions, 13%), marketing slogans and creative copy (6, 13%), ambiguous or context-dependent sentences (6, 13%), proper names and transliterations (6, 13%), and acronyms or abbreviations (3, 7%). This distribution of challenges indicates that while ChatGPT can process straightforward text, it often fails in domains that require deep cultural knowledge, creative adaptation, or specialized expertise.

Qualitatively, the open-ended responses reveal detailed perspectives on ChatGPT's translation challenges. Many participants specifically highlighted issues with literary translation, as P3 stated, "*literary translation provided by ChatGPT is not accurate*," while P24 observed that the tool "*loses subtle tones, such as humor or irony*." Challenges with cultural references were frequently mentioned, with P27 emphasizing that ChatGPT "*performs inadequately with content requiring deep cultural understanding*," and P12 noting its tendency to "*misinterpret idiomatic or culturally specific expressions*."

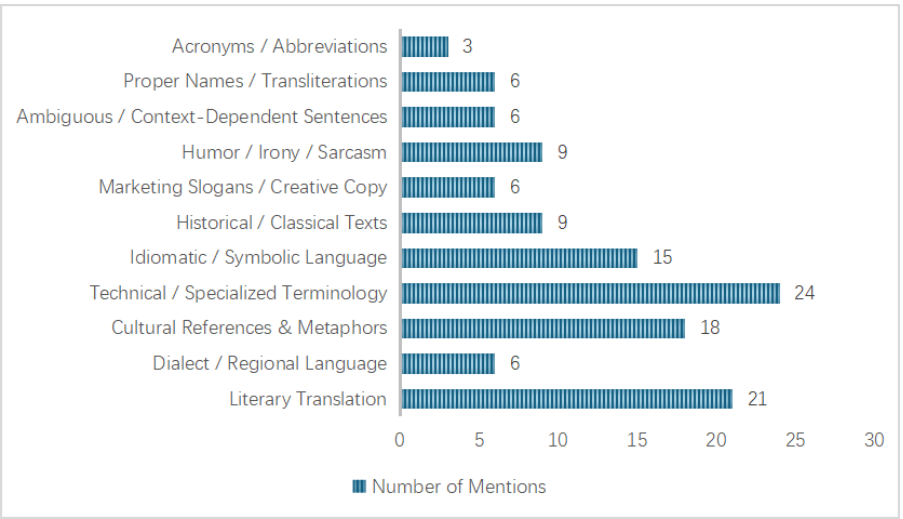

Figure 3. Types of content where ChatGPT performs poor in translation tasks.

Moreover, technical and domain-specific language was another common concern, with P9 reporting that "*ChatGPT struggles with highly specialized technical vocabulary*." Several respondents pointed out the need for manual verification, such as P3, who described having to "*cross-reference with authoritative bilingual dictionaries*," and P5, who would "*perform back-translation into the source language*" to ensure accuracy. Issues of accessibility, ethical concerns, and the risk of skill erosion also emerged, as P6 cited "*limitations in free access to advanced versions*," P30 raised "*authorship concerns*," and P15 warned against "*becoming overly reliant ... which might weaken my independent translation skills*." Collectively, these qualitative insights illustrate that while ChatGPT is widely used as a translation aid, student transla-

tors remain critically aware of its boundaries and the need for human oversight in complex, creative, or culturally rooted translation tasks.

3.6. Impact on Attitudes, Skills, and Thinking

The use of ChatGPT has brought about diverse changes in participants' attitudes towards translation, particularly in terms of openness to AI integration and the perception of translation as a collaborative process. As illustrated in **Figure 4**, among the 45 respondents, 36 indicated that using ChatGPT had changed their attitude towards translation, while 9 reported no change. Regarding confidence, 24 participants felt more confident in their translation abilities since using ChatGPT, whereas 21 did not perceive an increase in confidence. Additionally, 33 students stated that ChatGPT influenced their way of thinking about translation, while 12 did not. These findings suggest that, for the majority of students, ChatGPT has shifted attitudes and approaches to translation and fosters greater cognitive engagement and reflection.

Qualitatively, many participants acknowledged that ChatGPT increased their efficiency and motivated them to explore translation in a more engaging way. For example, P7 noted that translation has become "*more interesting but demanding*" with the help of AI tools, while P1 said it "help me translate more effectively." P12 stated that ChatGPT has "*increased my openness to experimenting with new translation strategies*", showing a shift from rigid translation routines to more exploratory approaches. Furthermore, participants like P27 and P45 described a newfound recognition of translation as an evolving skill, with P15 stating that the tool "*highlighted the importance of adaptability*". Even though not all respondents claimed a transformation in their fundamental attitudes, there was a general consensus that ChatGPT supported a more dynamic and technologically-informed perspective on translation.

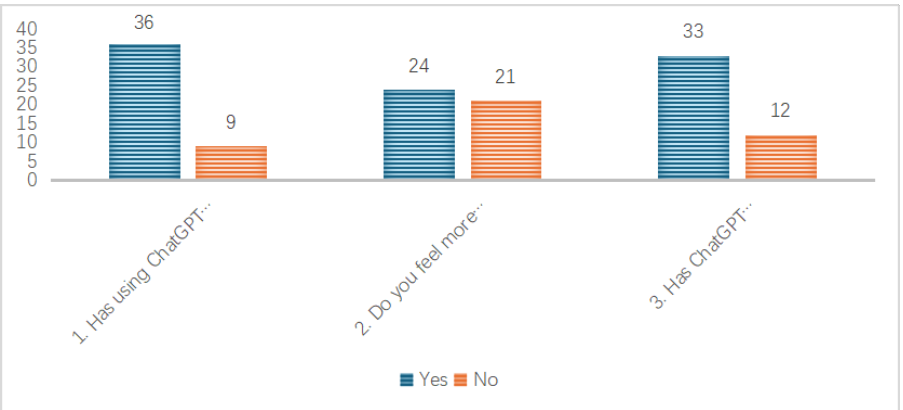

Figure 4. Translator students' perceived impact of use of ChatGPT (N = 45).

Moreover, in terms of skills and cognitive development, many respondents reported that using ChatGPT helped enhance their critical thinking, reflective practices, and self-editing abilities. P3 explained that ChatGPT "*encouraged me to consider multiple translation options*", indicating a more analytical approach to text analysis and problem-solving. Others, like P10 and P17, emphasized improvements in their ability to revise, stating that ChatGPT's outputs pushed them to "*critically evaluate AI-generated translations*" and "*correct my weaknesses effectively*". Several participants, including P14 and P18, highlighted the iterative nature of AI-supported translation, with P25 pointing out that it "*taught me to embrace multiple rounds of evaluation and revision*". However, not all participants experienced increased confidence; for instance, P29 noted that "*ChatGPT hasn't notably improved my confidence*". This suggests that while ChatGPT enhances certain aspects of translation thinking and workflow, its role in building self-assurance and deep interpretive skill remains limited and dependent on the user's level of critical engagement.

4. Discussion

This study set out to investigate how student translators use ChatGPT in translation practice, focusing on its usage frequency, prompting strategies, perceived usefulness, chal-

lenges, and its impact on attitudes and competence. Guided by five research questions, the findings reveal diverse engagement patterns, a wide range of prompt types, multiple perceived benefits, various challenges, and noticeable shifts in attitudes and cognitive strategies among translation students. These results offer insights into how generative AI is reshaping translator education in both opportunities and challenges.

Regarding frequency and prompting strategies (RQ1 and RQ2), the study found that a substantial proportion of students integrate ChatGPT into their regular workflow, with most using the tool for both coursework and personal practice. Prompts ranged from direct translation requests to strategy guidance, feedback evaluation, and post-editing, demonstrating a shift toward more interactive and reflective translation learning. This mirrors the findings of Al Shloul et al.[15] and Luckyardi et al.[17], who highlight the move toward activity-based and personalized language learning enabled by AI. Compared to previous research, which often focused on technical performance or teacher perspectives[27], this study illustrates students' evolving prompt literacy and their critical thinking to use ChatGPT as a static tool and a dialogic partner in translation training[42]. The findings align with Cress and Kimmerle's argument[43] that knowledge construction in AI-mediated learning depends on how users engage in dialogic, transformative interaction with the tool.

For perceived usefulness, and the challenges and limitations (RQ3 and RQ4), students valued ChatGPT primarily for its efficiency, immediate feedback, and support in terminology and grammar, which aligns with Javaid et al.[16], Kruk and Kałużna[30], who note similar advantages in language education. However, this study also identified some concerns that many students observed limited deep skill development, challenges with cultural accuracy, technical or domain-specific inconsistencies, and the risk of overreliance, which are consistent with Amaro and João Pires[22,23,25]. Notably, students frequently had to verify AI outputs, reinforcing the persistent need for human oversight in the translation process[24,28]. Thus, while ChatGPT enhances productivity and provides valuable linguistic scaffolding, it cannot fully replace the critical, creative, and culturally sensitive aspects of human translation.

In terms of impact on attitudes, thinking, and competence (RQ5), the study found that using ChatGPT led to greater openness to AI, heightened analytical and reflective practices, and, for many, increased confidence in translation. However, gains in self-assurance and deep interpretive skill were not universal and depended on the critical engagement of the student. These findings build on Cress and Kimmerle[43], and Chiu et al.[20], who emphasize the co-construction of knowledge and the role of guided reflection in technology-mediated learning. The results also resonate with Lee et al.[21], who found that structured AI use supports higher-order thinking and knowledge construction when coupled with reflective practices. Therefore, the present study shows that ChatGPT has the potential to shift translation learning from rote practice toward a more strategic, reflective, and collaborative process, provided its use is guided and critically monitored.

In summary, this study contributes to the growing literature on AI in translator training by mapping out technical efficiency, motivational outcomes, as well as the diverse ways student translators engage with ChatGPT in practice. It highlights the importance of fostering prompt literacy, critical awareness, and reflective engagement to maximize the educational potential of generative AI tools while mitigating their risks. As AI integration in translation education accelerates, these findings support the call for a balanced, pedagogically informed approach that positions AI as a supportive partner, rather than a replacement in the development of translation competence.

5. Implications

5.1. Theoretical Implications

The present study offers meaningful theoretical implications by positioning ChatGPT as a dynamic mediational tool in line with social constructivist principles. Vygotsky[33] posited that learning occurs most effectively when learners operate within their Zone of Proximal Development (ZPD), guided by interactions with a MKO who provides necessary scaffolding. Our findings suggest that, when student translators interact with ChatGPT, the AI can serve as a flexible MKO, thus providing timely prompts, explanations, and feedback tailored to individual needs. This aligns with Stojanov[29], who conceptualizes ChatGPT as a digital MKO, and Cai et al.[44], who confirm that AI tools, when thoughtfully integrated, can help learners identify and

operate within their ZPD by supporting collaboration and enabling personalized guidance. In the translation context, the iterative use of AI feedback allows students to extend their capabilities beyond what they could accomplish independently, therefore making ZPD and scaffolding highly visible in practice.

Furthermore, the constructivist emphasis on active, learner-cantered, and collaborative knowledge building is strongly evidenced in the present study. Participants did not merely passively consume AI-generated outputs; instead, they engaged in reflective dialogue, critically evaluated suggestions, and adapted them to context, which resonates with Saleem et al.[45], Zajda[46], and Jumaah[47]. The process of negotiating meaning with ChatGPT mirrors constructivist teaching strategies that encourage interaction, autonomy, and the co-construction of knowledge. The "scaffolding" provided by ChatGPT is not static but contingent on the learner's input and inquiry, paralleling the findings of Zhao[48] and Al Abri et al.[49], who stress the importance of contextually relevant and emotionally responsive support in constructivist digital environments. However, the "black box" limitation of AI, where algorithmic reasoning is not always transparent, remains a concern[29], but it also provides an opportunity for students to develop metacognitive skills by critically questioning and verifying AI-generated feedback[50].

Theoretically, these insights reinforce the value of constructivist models for future research and curriculum design in translation education, suggesting that AI tools including ChatGPT should not replace human interaction but can act as scaffolding agents to foster learner autonomy, critical thinking, and self-regulation[51,52]. The study supports calls for the integration of AI-driven formative feedback and authentic, dialogic engagement in translation training[53], and for curriculum designers to view AI as a catalyst for collaborative meaning-making rather than a mere automation tool. Therefore, future research should further explore how AI-driven scaffolding can be optimally balanced with translator trainers, especially in facilitating transitions across the ZPD and supporting students in navigating the complexities and uncertainties inherent to generative AI. By bridging constructivist theory and the realities of digital translation learning, this study provides a foundation for designing learning environments where technology and pedagogy work synergistically to promote deep, meaningful learning.

5.2. Pedagogical Implications

Pedagogically, the findings of this study underscore the importance of embedding AI tools such as ChatGPT into translation curricula in a way that fosters active engagement, critical thinking, and collaborative knowledge construction. To achieve this, translation trainers should design tasks that go beyond simply using AI for rapid translation or error correction. Instead, trainers are encouraged to structure learning activities around inquiry-based and problem-solving tasks where students use ChatGPT to compare, critique, and revise translations, promoting metacognitive reflection and deeper understanding of translation choices[48,51]. Such practices leverage the constructivist premise that students learn most effectively when actively constructing knowledge and interacting with technology and peers, rather than passively receiving information.

Best practices also include the use of AI as a "scaffold" for differentiated and personalized feedback, supporting learners within their individual ZPD[44]. Trainers should guide students to use ChatGPT not just for direct answers, but as a dialogic partner for exploring translation strategies, seeking cultural clarifications, and generating alternative renderings. As Stojanov[29] and Zou et al.[19] point out, trainers should encourage students to critically evaluate the feedback from AI through ross-checking, justifying choices, and reflecting on discrepancies to prevent overreliance and promote autonomy. Integrating activities such as peer review of AI-generated translations or collaborative post-editing exercises further reinforces both self-regulation and social learning, as these are key to the constructivist approach and crucial for the development of translation competence in a digital age.

Finally, to optimize the educational benefits while minimizing risks, translation trainers should establish clear ethical guidelines and teach digital literacy explicitly. This includes raising awareness about AI's limitations (e.g., superficial or culturally insensitive output), fostering responsible and transparent use, and combining AI-assisted training with human mentorship and traditional pedagogical methods[23,30]. Regular formative assessment, scaffolded feedback, and iterative revision cycles as recommended by Zhao[48] and Wang et al.[53], help ensure that students improve their technical translation skills and cultivate critical thinking, creativity, and ethical judgment. Collectively, these practices position AI

as an enhancer rather than a replacement of traditional translation pedagogy, empowering students to become adaptive, reflective, and responsible translators in a rapidly evolving professional landscape.

6. Conclusions, Limitations, and Future Research

The present study explored how student translators utilize ChatGPT to enhance their translation proficiency, focusing on usage frequency, prompts, perceived usefulness, challenges, and its impact on attitudes, skills, and thinking. The findings reveal that ChatGPT serves as both a functional tool and a reflective learning partner in translation training, supporting tasks such as post-editing, terminology clarification, and feedback generation. Participants noted improvements in efficiency, self-editing, and strategic thinking, though concerns remained about over-reliance and cultural or contextual inaccuracies. These insights underscore the growing role of AI in reshaping translation education, aligning with the principles of social constructivism where knowledge emerges through active interaction with tools and communities. The study thus contributes to the evolving understanding of AI-human collaboration in translation learning, advocating for pedagogical frameworks that integrate technological engagement with critical reflection.

However, several limitations should be acknowledged. First, this study adopted a qualitative approach with a relatively small, self-selected sample of translation students, which limits the generalizability of the findings. The absence of scale-point or structured quantitative data precluded correlation or cross-variable comparisons. Furthermore, the study did not standardize translation tasks for participants; instead, it relied on their authentic and varied experiences with ChatGPT, which, while valuable, reduces the comparability of results across respondents. Additionally, only ChatGPT was investigated, leaving the effectiveness and limitations of other AI translation tools or human-based feedback systems unaddressed. Finally, the study primarily documented the types of prompts used rather than systematically evaluating the prompt specificity or length on translation quality.

Given these limitations, future research could adopt a mixed-methods or longitudinal design to capture both quantitative and qualitative dimensions of AI-assisted translation training and provide a broader understanding of usage trends over time. Comparative studies involving different AI agents (such as DeepL, DeepSeek, or other adaptive feedback systems) as well as human feedback could clarify the relative strengths and weaknesses of each. Further research could also standardize translation tasks to facilitate performance comparisons and explore the role of prompt design in translation outcomes more systematically. Finally, it will be important for future studies to address ethical issues such as authorship, data privacy, and the use of AI in assessment and to include larger, more diverse samples to enhance generalizability. By expanding methodological scope and research focus, future investigations can further illuminate the complex and evolving role of generative AI in translation education and professional practice.

Author Contributions

Conceptualization, C.Y. and J.C.; methodology, C.Y.; software, C.Y.; validation, C.Y., J.C., and S.H.; formal analysis, C.Y.; investigation, C.Y.; resources, J.C.; data curation, C.Y.; writing—original draft preparation, C.Y.; writing—review and editing, C.Y., J.C., and S.H.; visualization, C.Y.; supervision, W.W. and W.L.Y.; project administration, W.W.; funding acquisition, W.L.Y. All authors have read and agreed to the published version of the manuscript.

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Informed Consent Statement

Written informed consent has been obtained from all subjects involved in the study.

Data Availability Statement

The data used and/or analyzed during the current study are available from the corresponding author on reasonable

request.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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