International Journal of TESOL Studies (2025)
250906, 1-24 https://doi.org/10.58304/ijts.250906

Article

Enhancing Thai Pre-Service Teachers' Translation Skills Through AI Tools, Social Media, and Public Feedback

Atipat Boonmoh
King Mongkut's University of Technology Thonburi, Thailand

Intrira Kulavichian*
Nakhon Pathom Rajabhat University, Nakhon Pathom, Thailand

Received: 31 March, 2025 / Received in revised form: 18 August, 2025 / Accepted: 25 August, 2025 / Available online: 15 September, 2025

Abstract
This study explored how a training program consisting of AI tools, social media feedback, and an iterative translation process influenced Thai pre-service teachers' development of translation skills and creativity. Fifty third-year students in a 'General Translation 2' course participated in a translation process consisting of three stages, namely an initial manual translation, an AI-assisted revision, and a final creative adaptation. Groups of three or four students were tasked with translating an authentic Thai social media advertisement. The study utilized a mixed-methods approach, integrating quantitative assessments of translation accuracy, fluency, and creativity with qualitative insights derived from written reflections, group interviews, and social media engagement. Content analysis and thematic analysis were used to analyse the data. The findings revealed clear improvements in translation accuracy, fluency, and creativity, particularly with AI assistance. However, student groups which actively refined AI-generated content appeared to perform better, highlighting the importance of human oversight. Public feedback, particularly from social media, influenced students' engagement strategies, revealing that audience appeal was more critical than translation accuracy alone. Groups that used humour, relatable language, and interactive elements received higher audience engagement. The study emphasizes that while AI tools aid students' technical accuracy, they should not substitute for human creativity and judgment. Thus, balancing AI tools with critical thinking is crucial in translation. The study also suggests that incorporating social media feedback can improve students' understanding of audience expectations.

Keywords
AI-assisted translation, pre-service teachers, social media and public feedback, translation skills

*Corresponding author. Email: intrira@webmail.npru.ac.th

1 Introduction

Artificial intelligence's (AI) rapid advancement has significantly impacted modern education, particularly in the fields of language learning and translation (Halaweh, 2023; Kim et al., 2023; Prahani et al., 2022). AI-based tools such as ChatGPT and Google Translate provide immediate, data-driven feedback (Teng, 2024), thereby improving access to authentic texts and facilitating error-correction cycles (Huang & Teng, 2025). Consequently, educators must learn to integrate these technologies into their teaching practices in order to prepare learners for an increasingly digital communicative landscape (Kessler, 2021; Mustroph & Steinbock, 2024). In English language teaching (ELT), these tools enable personalised learning, interactive practice, and improved accessibility (Kasneci et al., 2023; Santosa et al., 2024; Su & Yang, 2023; Thabet & Qadha, 2024). However, the very convenience that makes AI appealing also presents a pedagogical challenge, as depending too heavily on these tools can weaken the creativity, critical thinking, and reflective skills that are essential for professional translators and trainee teachers

Translation, particularly between languages with distinct cultural and linguistic structures such as Thai and English, has traditionally been regarded as a complex skill requiring both linguistic expertise and cultural awareness. Nevertheless, the emergence of AI-driven tools has transformed how translation is taught, offering convenience while simultaneously raising critical pedagogical concerns (Alharbi, 2023). These tools provide speed and efficiency, but they also present a paradox: while they may improve accuracy, they can hinder essential cognitive skills such as critical thinking, creative problem-solving, and reflective decision-making in translation (Cong-Lem et al., 2024; Santosa et al., 2024; Sumakul et al., 2022; Thabet & Qadha, 2024). Although large language models draw on extensive corpora, they still struggle with context-dependent subtleties, such as humour, politeness, and metaphor, which shape target-text quality (Klimova et al., 2023; Murtisari et al., 2019). For pre-service teachers (PSTs) preparing to become English educators, this raises important questions, including "Do AI tools enhance their translation skills or create dependency?" and "How do students balance AI-generated outputs with human creativity and linguistic intuition?" Understanding how these tools shape students' translation processes, critical engagement, and decision-making is crucial for evaluating their role in language education.

In addition to AI tools, social media and public feedback have become increasingly important in the translation process. As social media continues to shape communication, its role in English language teaching (ELT) is growing (Bui et al., 2023). Platforms with diverse, global user bases provide a unique space for real-time feedback on translations, which could help PSTs to refine their work and better understand audience expectations. The role of public feedback in translation education is not well explored, yet it plays a critical role in shaping students' translation strategies. In the present study, student translations were posted on Facebook, where public likes and comments provided real-time public engagement data. Some translations received high engagement despite having moderate accuracy, while others with high accuracy received lower engagement, raising important questions about the relationship between audience appeal, engagement, and translation quality. The study's process encouraged students to reflect on how translations are perceived in real-world settings and to adapt their work accordingly.

Numerous studies have demonstrated that AI tools can generate human-like translations and enhance EFL learning in higher education contexts (Klimova et al., 2023; Mabuan, 2024; Solak, 2023; Yefymenko et al., 2024). However, few researchers have investigated how iterative translation tasks, when supported by AI, impact PSTs' translation accuracy, creativity, and decision-making. In this study, accuracy refers to grammatical correctness and accurate word choice, fluency refers to natural flow and clarity of expression, and creativity refers to the ability to adapt translations to suit the audience and context. Further, while public feedback plays a vital role in shaping translation outcomes, little is known about how it influences PSTs' understanding of audience needs and translation effectiveness. This study aims to bridge these gaps by examining how students engage with AI-assisted translation, respond to public feedback, and develop their creative and linguistic judgment in their translation tasks.

Specifically, the study examines how AI tools, iterative translation tasks, and audience-centred feedback shape the translation skills, creativity, and pedagogical understanding of Thai third-year PSTs in the 'General Translation 2' course at a local *rajabhat* (former polytechnic) university. It investigated the role of AI tools, social media, and public feedback in influencing the Thai PSTs' translation skills and creativity. Specifically, it examined how iterative translation tasks supported by AI tools and audience-centred feedback contributed to their learning and professional development. By incorporating authentic social media content, this research emphasizes the importance of real-world application, task engagement, and audience awareness in teaching translation. The study also sought to provide practical insights into technology-enhanced teaching and learning.

While this study did not aim to measure long-term gains, it does reflect on whether the observed improvements represent meaningful development or are limited to short-term assistance from AI tools. An iterative approach to translation, i.e., one where students repeatedly refine their work based on AI-assisted suggestions and feedback, has been shown to enhance language development and output quality (Alharbi, 2023; Barrot, 2023). The present study's three-stage translation process comprised (1) initial human translation, (2) AI-assisted revision, and (3) creative adaptation. Each phase required students to refine their translations based on public feedback and self-reflection, thereby emphasising the importance of balancing AI assistance with human judgment. This is because, while AI tools can help identify errors quickly and enhance accuracy, there exists widespread concern that they may discourage students from thinking critically and creatively. It is therefore crucial to explore whether these tools support students in becoming better translators or inadvertently limit their ability to deeply engage with translation choices. Consequently, the present study's research design evaluates the dynamic interplay between human judgment, AI assistance, and audience response, three dimensions that are often studied in isolation but which are rarely combined.

2 Literature Review

The integration of AI tools in translation education has attracted increasing attention, particularly with regard to fostering translation accuracy, sustaining creativity, and balancing technological assistance and human judgment. Additionally, public feedback has been recognized as a crucial factor in shaping translators' awareness of audience expectations and in improving their effectiveness. This section reviews key studies on AI in translation, on AI's impact on PSTs, and on the role of social media feedback in teaching and studying translation.

2.1 AI tools in translation

Recent advancements in artificial intelligence, machine learning, and neural network technologies have significantly improved AI-powered translation tools (Mahdi & Sahari, 2024; Soori et al., 2023). These developments have enabled faster, more accurate translations while raising critical questions about over-reliance, cognitive engagement, and ethical concerns (Gutierrez, 2024). AI tools such as Google Translate (GT) and ChatGPT have become widely used in teaching translation due to their accessibility and ability to assist with lexical selection, grammar correction, and sentence restructuring (Abdallah, 2025; Alharbi, 2023; Boonmoh & Kulavichian, 2023; Klimova et al., 2023; Loock & Holt, 2024; Mahdi & Sahari, 2024; Thabet & Qadha, 2024; Wu et al., 2025; Yefymenko et al., 2024).

Several studies have examined the impact of AI tools in translation training. Yefymenko et al. (2024) and Teng (2025) highlighted how AI tools improve students' motivation to learn English and facilitate intercultural communication but also warned of the risks of reduced student autonomy and over dependence on AI suggestions. Similarly, Alharbi (2023) found that GTimproved EFL students' writing quality and sentence complexity, yet raised concerns regarding excessive reliance on AI, which could hinder deeper linguistic analysis and decision-making. For instance, Boonmoh and Kulavichian

(2023) identified common translation challenges facing Thai EFL PSTs, emphasizing that students frequently struggled with proper noun transliteration, lacked contextual awareness, and overly relied on AI-generated outputs. In another related study, Boonmoh and Boonkhaos (2025) examined how Thai university their students used GT and other online tools to revise English summaries. After targeted training, the students showed marked improvements in grammar and sentence precision. However, the study also highlighted the importance of guided instruction in reducing an over-reliance on AI tools and the importance of promoting more effective tool use.

More recently, Mahdi and Sahari (2024) investigated the relationship between critical thinking, attitudes, and AI anxiety in teaching learning translation. Their findings revealed that positive attitudes toward AI improved critical thinking and reduced anxiety, but that an excessive reliance on AI tools could limit problem-solving skills. Focusing on creativity, Thabet and Qadha (2024) further explored AI-assisted poetry translation, demonstrating how AI can support technical and linguistic aspects but requires human oversight in order to ensure cultural authenticity and creative expression.

Overall, the literature indicates that AI-powered translation tools present both opportunities and challenges. While they enhance translation accuracy and efficiency, they also raise concerns about reduced human engagement, a lack of critical reflection, and heightened ethical considerations in language education. Overall, these studies highlight the importance of balancing AI assistance with human judgment in order to train and develop independent and reflective translators.

2.2 Teacher development and AI tools

The integration of AI in teacher education is reshaping how teachers prepare for modern classrooms. AI can support personalized learning, effective lesson planning, and reflective practice, thereby contributing to more adaptive teaching approaches (Holmes et al., 2019; Luckin et al., 2022; van den Berg & du Plessis, 2023). PSTs appreciate AI's capacity to streamline tasks like lesson planning, personalized feedback, and content creation but consistently worry about ethics, overdependence, and the erosion of core teaching skills. For example, Bae et al. (2024) and Pokrivcakova (2023) both reported increasing confidence in their students' use of AI yet concern that it may undermine critical thinking and individualized instruction. Similarly, Taşçı and Tunaz (2024) and Guan et al. (2025) noted that while AI can save time and customize learning, limited AI literacy, threats to teacher autonomy, and data-privacy risks drive calls for stronger ethical and pedagogical training.

In recent studies, scholars have explored how AI tools support the professional growth of EFL PSTs. Srinivasan (2022) highlighted AI's capacity to provide continuous updates throughout teachers' careers and to offer personalized learning support. Similarly, Tran et al. (2024) interviewed nine Vietnamese EFL teachers about using ChatGPT for professional development. The findings revealed that ChatGPT enabled highly personalized learning, effectively bridged theoretical concepts with practical classroom strategies, and it even sparked peer collaboration and ongoing reflexivity. Likewise, Duan and Zhao (2024) investigated 320 Chinese high school teachers about the repercussions of AI-powered technologies on teachers' autonomous behavior, risk of digital burnout, and professional development. The results indicated that AI-integrated tools significantly boosted teachers' professional growth and autonomy while also reducing digital burnout.

AI tools can also serve as expert-like assistants and interactive teaching partners, potentially reducing teachers' workloads and enhancing their professional development (Barrot, 2023; Estaiteyeh & McQuirter, 2024; Gao et al., 2024; Kerr, 2024; van den Berg & du Plessis, 2023). For instance, Kerr and Kim (2025) explored how EFL PSTs at a South Korean university used generative AI tools to design a middle-school English lesson. The results showed that AI tools supported them in choosing topics, creating materials, structuring their plans, and checking language, thereby improving both efficiency and creativity. However, the PSTs struggled with the quality of their output and with deeper pedagogical

integration, highlighting the need for focused training in creating AI prompts, the ethical use of AI, and AI-enhanced teaching strategies.

Likewise, Söğüt (2024) examined PST and trainer perspectives on employing generative AI in EFL writing instruction classes. The participants valued AI's capacity to offer instant, targeted feedback that scaffolded students' drafts, but they also voiced concerns about over-reliance on AI and potential breaches of academic integrity. The study offered ethical and pedagogical recommendations, encouraging teachers to adopt a critical stance and to integrate AI literacy training into EFL writing instruction. Similarly, Nyaaba et al. (2024) surveyed 167 Ghanaian PSTs on their use of generative AI as both a 'learning buddy' and teaching assistant. Participants reported generally positive attitudes toward generative AI in both roles, valuing its ability to provide content explanations, reading materials, lesson-planning support, and assessment strategies. Despite the PSTs' enthusiasm for AI's potential to enhance resource access and reduce reliance on colleagues, they remained concerned about the accuracy and trustworthiness of information, underscoring the need for strategies that build AI literacy and integrate AI in teacher education.

Concerning the range of AI applications in pedagogy, Sucháňová (2023) identified six key AI applications for pre-service EFL teacher training, comprising natural language processing tools, content creation and personalisation tools, content recommendation systems, emotion and sentiment analysers, text summarisation and analysis tools, and chatbots and virtual assistants. The study noted that these applications provide enhanced linguistic analysis and personalized learning experiences, but it cautioned against over-reliance on AI for decision making in the instructional process.

Overall, while the evidence suggests that PSTs recognize AI's potential to enhance teaching efficacy, concerns remain about the ethical implications, risk of loss of critical thinking, and potential dependency on technology. Addressing these concerns requires AI literacy training to ensure responsible and balanced AI integration in teacher education (Todd, 2025).

2.3 Social media and the role of public feedback in translation

Social media plays an increasingly influential role in translation education, providing real-time feedback and engagement opportunities (Bui et al., 2023; Elverici, 2021; Ghimire, 2022; Kusuma, 2022). Through platforms such as Facebook, learners can receive immediate responses from diverse audiences, helping them to refine their translations and better understand how different audiences perceive their work.

Public feedback in translation education has been shown to improve learning by fostering audience awareness and encouraging iterative revisions (Alalimi, 2020). Flanagan and Heine (2015) emphasised that public feedback and social interact support deeper engagement with translation decisions and help students to refine their translation approaches. Specifically, receiving feedback from peers and the general public allows students to reflect on their translation choices; make adjustments; and improve the clarity, accuracy, and engagement of their translations (Pym, 2023).

Several studies have explored how audience feedback influences translation effectiveness, indicating both advantages and drawbacks. For instance, Kraeva and Krasnopeyeva (2020) examined YouTube user comments on translated content, showing that while feedback often provides valuable insights, it is inconsistent and may lack professional rigour. Similarly, Desjardins (2017) argued that social media translation lacks consistent quality control, requiring translators to evaluate audience responses critically.

For Thai PSTs, exposure to real-time feedback on social media has the possibility of improving language adaptability, cultural awareness, and translation competence. Reading and engaging with social media comments helps students to recognise the importance of tone, simplicity, and audience expectations in translation (Alharbi, 2023; Thabet & Qadha, 2024; Yefymenko et al., 2024). However, AI reliance must be balanced with human judgment, as AI-generated translations may not always capture cultural nuances or employ reader engagement strategies (Chen, 2024; Marrone et al., 2022).

To sum up, AI tools and social media feedback are reshaping the teaching of translation and are enhancing accuracy, creativity, and learning autonomy in this field. However, while AI can improve efficiency, concerns about over-reliance and a loss of human judgment remain. Social media can provide immediate human feedback, helping translators to refine their work and to understand audience preferences, though its reliability varies. For Thai PSTs, integrating AI and public feedback has the potential to foster linguistic skills, cultural awareness, and translation competence. A balanced approach combining technology with human expertise is essential for fostering effective translation education and is the key tenet underpinning the research detailed in this article.

To investigate how to create this balanced approach, this study examined how AI tools, social media, and public feedback impact Thai PSTs' translation abilities and creative skills in an English teacher education program at a local *rajabhat* (former polytechnic) university. Accordingly, this study was guided by the following research questions (Rqs):

RQ1: How does the iterative translation process, including the use of AI tools, affect Thai pre-service teachers' translation accuracy, creativity, and ability to balance technology with human judgment?

RQ2: How does exposure to audience-centred feedback on social media inform pre-service teachers' understanding of translation effectiveness and their adaptation of texts to meet audience needs?

3 Methodology

3.1 Research design

This study employed a mixed-methods research design (Creswell & Plano Clark, 2017). This integrated quantitative analysis, namely translation accuracy, fluency, and creativity scores, along with public engagement metrics, with qualitative insights in the form of written reflections and group interviews. The combination of these methods allowed for a comprehensive exploration of how AI tools, social media engagement, and public feedback influenced Thai PSTs' development of translation skills. In effect, the study examined the balance between AI assistance and human judgment in an iterative translation process.

3.2 Participants

The study involved 50 PSTs enrolled in the elective course 'General Translation 2' (1553204) at a local *rajabhat* (former polytechnic) university in Thailand. These students had previously completed 'General Translation 1' but had not received formal training in using AI tools for translation. General Translation 1 provides foundational principles and techniques for translating between English and Thai, focusing on text structure, vocabulary, idiomatic expressions, and socio-cultural nuances, while also practicing word-, sentence-, and paragraph-level translations. Building on this, General Translation 2 deepens students' skills by tackling complex academic and professional texts, such as abstracts, articles, and contracts, and it emphasizes advanced strategies for problem identification and resolution.

All the study's participants were of Thai nationality, were aged 20 to 21, and were non-native English speakers. They also demonstrated varying levels of academic performance and English proficiency. Their previous semester's grammar grades revealed a broad spectrum of English proficiency. Two students had achieved the highest mark (A), while two had received the lowest (E). In between, five had earned B+, ten had earned B, and seven had achieved C+. Eleven had scored C, eight had received D+, and five had obtained D. Overall, most participants fell into the intermediate range (C to B), with a smaller number at the top and bottom of the scale.

In the study, convenience sampling was employed, with voluntary participation. All the participants were taught by one of the researchers, ensuring direct familiarity with course objectives. To address potential bias, students were informed that their participation would have no effect on their course grades.

3.3 Instruments

The study used four data collection instruments in order to examine translation performance, engagement with AI tools, engagement on social media and reflections on the iterative learning process.

Firstly, student translations were collected from each stage and evaluated based on three key criteria, namely accuracy, which measured grammatical correctness, vocabulary precision, and sentence structure; fluency, which assessed naturalness and readability; and creativity and adaptation, which considered cultural appropriateness and audience engagement. We analysed the final translation task in order to determine how well students adopted and adapted AI-generated suggestions. The final translations were rated using an eight-criteria rubric covering Accuracy, Fluency, Creativity, AI–Human Balance, Emoji Use, Added Information, Hashtags, and Call-to-Action. All translations were independently scored by two expert raters who were instructors of 'General Translation 2' and who participated in a standardized rater-training workshop to ensure the consistent interpretation of each rubric dimension. The rubric was applied to the final group translation submitted after the third stage of the task. Inter-rater reliability was assessed using Cohen's κ, which yielded $\kappa = 0.87$, indicating high agreement between the two raters. To further ensure reliability, a random subset of 14 student translations (one from each group) was re-evaluated by an external examiner, whose ratings were consistent with the original scorers. The rubric itself was developed in consultation with the program's curriculum committee and refined through a pilot study with fourth-year students in order to establish face and content validity before full implementation. The construct definitions for accuracy, fluency, and creativity were also aligned with course objectives and informed the scoring framework, ensuring transparency and consistency in how each criterion was operationalized.

Secondly, public feedback was obtained through audience engagement on a departmental Facebook page, where votes (likes) and comments were recorded. The comments were analysed thematically, focusing on aspects such as accuracy, attractiveness, clarity, and creativity, in order to better understand audience reactions to different translation approaches.

Thirdly, individual written reflections were collected in order to obtain deeper insights into the students' experiences. Students wrote 300–400-word Thai-language reflections discussing their use of AI tools, their responses to public feedback, and their learning throughout the iterative process. These reflections were analysed in order to identify recurring themes, including students' perceptions of AI's strengths, limitations, and roles in translation decision-making.

Lastly, group interviews were conducted to explore the students' collaborative decision-making, their use of AI tools in translation, and their responses to social media-based public feedback. Two groups were selected for interviews based on contrasting translation performance and engagement metrics, allowing for a comparative analysis of different translation strategies. The interviews followed a semi-structured format with eight open-ended questions, focusing on how students made translation decisions, how their choices were influenced by AI tools, and how they adapted their translations in response to audience feedback.

3.4 Research procedures

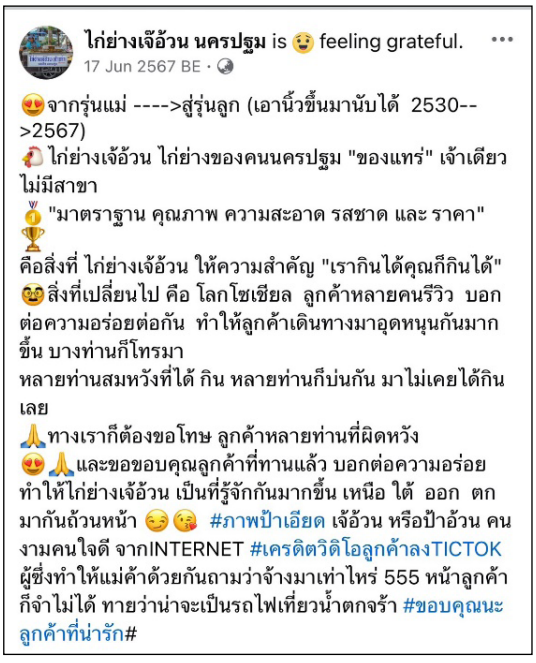
Prior to beginning data collection, the translation instrument was piloted with a separate group of fourth-year students. Their translations were evaluated using the existing course-based rubric. The pilot revealed

that the original Thai social media advertisement selected for translation was too lengthy and overly difficult for the intended timeframe. Consequently, a different advertisement on the same topic which was shorter and more accessible was selected for use in the main study. The revised task was reviewed by both course instructors and by the curriculum team in order to ensure its appropriateness in terms of length, clarity, and alignment with learning outcomes.

The study was conducted over a three-week period during the semester. In Week 11, students participated in an iterative translation task, working in small groups of three to four members. They were tasked with translating an authentic Thai social media advertisement (see Figure 1), a task which simulated real-world translation challenges. The task followed three key stages:

1. Initial translation: The students translated the advertisement without AI assistance or dictionaries, whether print or online, as mobile devices were not allowed and no print dictionaries were brought to class. They relied solely on their linguistic and cultural knowledge. This phase was designed to capture students' baseline translation ability and independent decision-making.
2. AI-assisted revision: The students refined their translations using AI tools, such as Google Translate and ChatGPT, in order to improve accuracy, grammar, and fluency. They were encouraged to critically evaluate AI-generated suggestions, not to accept them blindly, as part of developing reflective judgment.
3. Creative adaptation: The students further refined their translations, enhancing readability, cultural relevance, and audience engagement, by incorporating creative strategies such as the use of emojis, effective call-to-action statements, and suitable hashtags. This stage emphasized personal voice, audience awareness, and real-world adaptability.

Figure 1
Original Thai Advertisement Used in the Translation Task and Researchers' Translation



From the mother generation to this generation (this journey has been from 1987 to 2024).

"Aunt Auan Grilled Chicken" – the original and authentic grilled chicken of Nakhon Pathom province, a unique brand that has no branches.

"Standards, Quality, Cleanliness, Taste, and Price." are what Aunt Auan Grilled Chicken prioritizes.

"If we can eat it, you can eat it."

What has changed is that when social media spreads, it helps bring more customers to support us. Some call us. Some try our chicken, and some miss out.

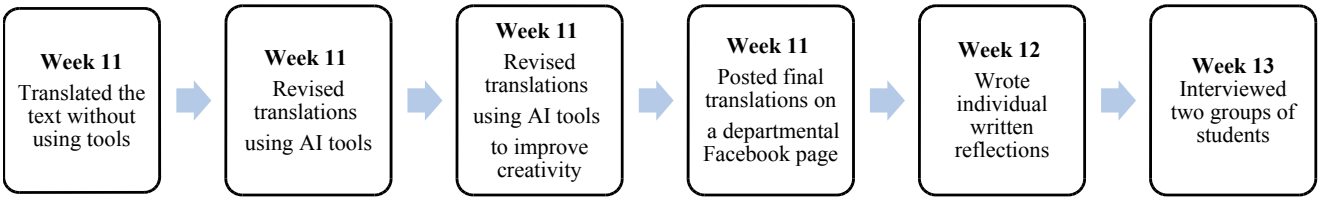
We apologize to customers who have been disappointed.

We also thank customers who try our grilled chicken and spread the news further, making Aunt Auan Grilled Chicken more well-known from north, south, east, and west of Thailand. #Image of Aunt Aed, Aunt Auan, or the kind-hearted, beautiful woman is from the INTERNET. #Credit for the video comes from a customer who posted it on TikTok, which made fellow vendors ask how much we paid them, haha. I can't remember the customer's face, but I guess they were from a train tour to Namtok Station. #Thank you to our lovely customer.

In Week 12, the final translations were posted on a departmental Facebook page for public voting in the form of 'likes' and audience feedback. Students then wrote individual reflections, analysing how AI tools assisted their translation process and how public feedback influenced their understanding of the effectiveness of their translations. This stage was designed to help students connect classroom learning with quasi-authentic public reception, reinforcing the iterative nature of translation as a communicative act.

In Week 13, two student groups were selected for in-depth group interviews based on their contrasting engagement levels and translation performance. These interviews explored the students' decision-making processes, how they refined AI-generated content, and their responses to public feedback.

Ethical guidelines were strictly followed in order to protect the participants' rights and privacy. Informed consent was obtained from all the participants before data collection. Participation was entirely voluntary, and students were assured that their grades would not be affected by their decision to participate or withdraw. Anonymity and confidentiality were maintained throughout the study in order to protect student identities. Additionally, the study was approved by the Institutional Review Board (IRB) of King Mongkut's University of Technology, following the expedited review process (Approval Number: KMUTT-IRB-COA-2025-016).



3.5 Data analysis

The study employed both quantitative and qualitative data analysis techniques in order to examine student translations, audience engagement, and the students' perceptions of AI tools in learning translation.

Quantitative data were analysed using a repeated-measures non-parametric approach in order to determine whether observed changes across translation stages were statistically significant. Student translations from all three rounds were rated based on eight criteria: Accuracy (40%), Fluency & Readability (20%), Creativity & Adaptation (20%), AI–Human Balance (20%), Emoji Use (5%), Added Useful Information (5%), Hashtag Selection (5%), and Call-to-Action Strength (5%). These weights reflect the pedagogical priorities of the 'General Translation 2' course, with its emphasis on accuracy, clarity, and contextual engagement.

To evaluate progress across the three stages, i.e., manual, AI-assisted, and creative adaptation, we used the Friedman Test (Friedman, 1937), a non-parametric alternative to repeated-measures ANOVA suitable for ordinal data and small sample sizes. Upon finding a significant overall effect, pairwise Wilcoxon Signed-Rank Tests (Wilcoxon, 1945) were conducted in order to identify which stages showed statistically meaningful differences. All analyses employed SPSS Version 27.0.

Inter-rater reliability for translation scoring was assessed using Cohen's κ, which yielded $\kappa = 0.87$, indicating strong agreement between the two raters. This supports the reliability of the quantitative scoring process.

A content analysis (Krippendorff, 2019) of 50 individual written reflections was conducted in order to identify key themes related to AI reliance, audience awareness, and translation adaptation. Reflections were open-coded, followed by axial coding to group emergent themes into three dimensions, namely strengths, challenges, and perceptions of human–AI balance. Two coders discussed and reconciled the coding decisions in order to ensure consistency.

Public engagement data were analysed thematically and descriptively. Facebook likes and comments on each group's final translation were collected, recorded, and examined for thematic patterns such as attractiveness, audience clarity, and creativity. Engagement metrics were cross-referenced with translation performance scores in order to explore alignment or divergence between audience appeal and evaluator-rated quality.

Finally, the researchers applied a thematic analysis (Braun & Clarke, 2006) to the group interviews. Transcripts were transcribed verbatim and coded for recurring patterns, particularly focusing on AI's role in translation decision-making, the challenge of balancing human and AI input, and how students adapted based on public feedback. Themes were reviewed by two independent coders, with discrepancies resolved through discussion. These findings provided a deeper understanding of the students' evolving strategies and of their perceptions during the translation process.

4 Results

This section presents the findings from the iterative translation process, in the process incorporating data from student translations, public feedback, individual written reflections, and group interviews in order to answer the two research questions. The results highlight patterns in the accuracy of translation, creativity, and engagement strategies, as well as students' insights on balancing AI assistance with human judgment.

4.1 Translation performance across three stages

This section presents the findings related to RQ1, which investigates the extent to which the AI-supported, iterative translation process influenced the Thai PSTs' translation accuracy, fluency, and creativity. As shown in Table 1, students' translations appear to have improved across all three translation stages, i.e., Human-Only, Online Tools, and Strategic ChatGPT Integration. The average total translation score increased from 41.6 (Human Only) to 54.6 (Online Tools) and 68.3 (ChatGPT Assisted).

To determine whether these improvements were statistically significant, we conducted a Friedman Test, followed by pairwise Wilcoxon Signed-Rank Tests:

- Friedman Test ($\chi^2(2) = 23.67$, $p < .05$), indicating a significant overall difference across the three stages.
- Wilcoxon Signed-Rank Test 1 vs 2 ($W = 1.0$, $p < .05$), showing a significant increase from Human-Only to Online Tools.
- Wilcoxon Signed-Rank Test 2 vs 3 ($W = 1.0$, $p < .05$), confirming a significant improvement from Online Tools to ChatGPT-Assisted.
- Wilcoxon Signed-Rank Test 1 vs 3 ($W = 0.0$, $p < .05$), demonstrating a significant gain from Human-Only directly to ChatGPT-Assisted.

Table 1
Summary of Statistical Tests and p-values

Test	Statistic	p-value
Friedman Test ($\chi^2(2)$)	23.67	$p < .05$
Wilcoxon Signed-Rank Test 1 vs 2	1.0	$p < .05$
Wilcoxon Signed-Rank Test 2 vs 3	1.0	$p < .05$
Wilcoxon Signed-Rank Test 1 vs 3	0.0	$p < .05$

These results confirm that each stage of AI support contributed to statistically significant enhancements in translation performance, directly addressing RQ1.

The increase in average score from 41.6 (Human-Only) to 68.3 (ChatGPT-Assisted) represents not only a statistically significant difference, but also a substantial pedagogical shift, particularly in the students' ability to revise and adapt their work using AI tools. While effect sizes were not calculated,

the magnitude of improvement and the consistency across all the pairwise comparisons underscore the practical relevance of the intervention. These results highlight the potential value of structured AI-supported translation tasks in enhancing both linguistic accuracy and creative adaptation in PST training.

Table 2
Comparison of Translation Performance across Three Approaches

Group	First Round: Human Only Translation				Second Round: Online Tools Translation				Strategic Translation with ChatGPT			
	Acc.	**Flu.**	**Cre.**	**Total**	**Acc.**	**Flu.**	**Cre.**	**Total**	**Acc.**	**Flu.**	**Crea.**	**Total**
	40 Pts	20 Pts	20 Pts	80 Pts	40 Pts	20 Pts	20 Pts	80 Pts	40 Pts	20 Pts	20 Pts	80 Pts
1	16	10	6	32	24	12	10	46	36	18	18	72
2	20	8	8	36	32	16	14	62	36	18	18	72
3	20	10	8	38	24	14	14	52	28	18	16	62
4	28	14	12	54	32	16	14	62	36	16	18	70
5	16	10	8	34	20	12	10	42	30	16	14	60
6	28	14	12	54	24	14	12	50	36	18	18	72
7	24	12	10	46	28	16	14	58	34	18	18	70
8	20	12	10	42	28	14	14	56	36	18	20	74
9	20	12	10	42	28	14	14	56	32	14	16	62
10	20	12	10	42	28	16	16	60	36	18	20	74
11	20	12	10	42	28	14	14	56	38	18	16	72
12	20	12	10	42	20	12	10	42	32	16	16	64
13	16	10	10	36	28	16	16	60	28	14	16	58
14	20	12	10	42	32	14	16	62	36	18	20	74
	20.6	11.4	9.6	41.6	26.9	14.3	13.4	54.6	33.9	17.0	17.4	68.3

Note: Acc = accuracy, Flu = fluency, and Cre = creativity. Accuracy is weighted at 40%, while fluency and creativity are each weighted at 20%. When reviewing translation work, accuracy is the main focus; consequently, it is allocated a weight of 40%.

A pattern seems to emerge in terms of accuracy, which improved the most from the Human Only phase (20.6) to the Online Tools phase (26.9) and then further to the ChatGPT-assisted phase (33.9). This suggests that AI-supported translations may have contributed to reduced errors, improved sentence structure, and enhanced word choice. Fluency and creativity also showed steady improvements, with ChatGPT-assisted translations receiving the highest ratings, indicating a potential benefit of AI in terms of supporting the creation of more engaging and culturally appropriate texts.

Despite the overall improvements, some groups appeared to benefit more from AI assistance than others. For example, Group 5 had one of the lowest final scores (60), whereas Groups 1, 2, 6, 10, and 14 all achieved 72 or higher. This implies that while AI tools can provide valuable support, human refinement likely plays a crucial role in maximising translation quality. The students who actively edited and adapted AI-generated text tended to perform better than those who relied on AI outputs with minimal revisions. This aligns with the findings of Alharbi (2023), who reported that EFL students who used AI tools passively, i.e., without editing or questioning the output, were less likely to produce contextually appropriate and natural translations.

Another key trend was that creativity improved the most in the ChatGPT-assisted stage, from 9.6 to 17.4. This may indicate that AI tools not only help improve translation accuracy but also potentially support students in crafting more engaging texts. This finding echoes the research findings of Thabet and Qadha (2024), who observed that while AI-supported translation improved lexical variety and expressive language in poetry translation tasks, the most effective outcomes still benefited from learners' creative adaptation and audience awareness. These findings suggest that the iterative process, especially the final stage, namely combining ChatGPT with student adaptation, may have contributed to measurable improvements in translation competence, directly addressing RQ1.

Figure 2

First Round: Human-Only Translation and Second Round: Online Tools Translation of Group 1

Group 1 (lowest score)

1st round

From Mom Era, to child Era you can count with your fingers 1987 – 2004

Grill chicken Jae Auan's grill chicken of Nakhon Pathom "real!" only one Jae Auan's grill chicken no fan shy

Standard quality clean tase and price, the thing which Jae Auan's Grill chicken give importance to it "We can eat, you can eat!"

Things is change is social.A various review from customers, they told super delicious to them. It make many customers come to support more or some customer also called to us.

A lot of people are complete to eat nevertheless some people are come to me but never eaten.

We're sorry customers who disappointed.

and thanks those who have been tried it and spread the word about how delicious is it. You support has made "Jae Auan's grill chicken" even more well known across the North, South, East and West.

#credit's customers video who upload on tiktok that make other sellers ask me how much you pay them to make video, ha ha ha, I can't remember customers, I guess, It maybe train to waterfall. #Thank you lovelycustomers.

Group 1

2nd round

Grilled Chicken Je Auan, Nakhon Pathom Feeling grateful

June 17, 2567 (Buddhist Era)

From mother's generation ----> to the child's generation (This means it has been running since 2530 B.E. (1987) until 2567 B.E. (2024))

Grilled Chicken Je Auan – The authentic grilled chicken of Nakhon Pathom, the one and only original!

"Standards, Quality, Cleanliness, Taste, and Price"

These are the values that Grilled Chicken Je Auan prioritizes:

"We can eat quality food at an affordable price."

One thing that has changed is the social media era. Many customers have reviewed and praised the deliciousness, making new customers want to try it. Some even called to inquire.

We sincerely apologize to the customers who had high expectations and may have been disappointed. At the same time, we thank those who have already tried it and helped spread the word about how delicious it is. This has made Grilled Chicken Je Auan even more well-known—north, south, east, and west.

The photo used is illustrative – "Je Auan" or "Pa Auan" (Aunt Auan), whichever name you prefer. This image is from the INTERNET.

#CreditToCustomers'Videos

Some Tik Tok users recorded videos asking, "How much does your mom pay you to work here?" The daughter replied, "I can't say, but in the future, she might have to pay me in gold bars!"

#ThankYouDearCustomers

It can be seen that Group 1's translation work, which was performed solely using the students' own abilities in the first round, received the lowest score due to several error types. These included grammatical mistakes, incorrect tense usage, misspellings, and inappropriate word choices. However, in the second round, when Group 1 used AI tools such as ChatGPT and GT to assist with the translation, their translation work became more accurate in terms of grammar and spelling.

4.2 Engagement, readability, and social media performance

This section presents findings related to RQ2, which concerns students' perceptions of using AI tools and of their responses to public feedback in the translation process. Table 3 provides insights into how different translation strategies may influence audience engagement. Although some groups achieved similar accuracy scores, their engagement levels varied significantly based on their use of social media features, namely emojis, additional information, hashtags, and call-to-action strategies.

Table 3
Audience Engagement and Translation Strategies: Impact of Social Media Features

Group	Strategic Translation with ChatGPT								No. of FB Likes	No. of FB Comments
	Acc.	Flu.	Cre.	Emoji Use	Added Useful Infor.	Hashtags	Call-to-Action Strength	Total		
	40	**20**	**20**	**5**	**5**	**5**	**5**	**100.0**		
1	36	18	18	5	5	5	5	92.0	68	17
2	36	18	18	5	5	4.5	4	90.5	45	6
3	28	18	16	5	2	5	4.5	78.5	99	38
4	36	16	18	4.5	4	4.5	3.5	86.5	45	25
5	30	16	14	5	5	0	3.5	73.5	20	3
6	36	18	18	4.5	2	0	4	82.5	71	13
7	34	18	18	4.5	5	3.5	3.5	86.5	110	7
8	36	18	20	4	2	0	4.5	84.5	35	6
9	32	14	16	5	3	4.5	4.5	79.0	79	30
10	36	18	20	4.5	3	0	3.5	85.0	46	20
11	38	18	16	4.5	5	4.5	5	91.0	32	14
12	32	16	16	4.5	5	5	5	83.5	26	2
13	28	14	16	4.5	5	0	4.5	72.0	21	1
14	36	18	20	4	3	2.5	4	87.5	76	24
	33.9	17.0	17.4	4.6	3.9	2.8	4.2	83.8		

For instance, Group 3 received 99 Facebook likes and 38 comments, despite having a moderate translation score (78.5). In contrast, Group 5, with a higher translation accuracy score (73.5), only received 20 likes and 3 comments. This suggests that audience engagement might not solely depend on translation accuracy but also on how well the text has been adapted for social media appeal. This insight is consistent with the findings of Kraeva and Krasnopeyeva (2020), who found that online audiences tend to respond more to emotional tone, creativity, and relevance than to grammatical precision alone, especially in comment-based environments like YouTube or Facebook.

A deeper analysis indicates that the groups which used engaging elements, such as humour, relatable language, and interactive call-to-action phrases, tended to receive higher engagement. Group 3, for example, incorporated informal and playful language, along with emojis that enhanced readability and emotional appeal (see Figure 2). In contrast, Group 5 maintained a formal tone and seemed to lack effective engagement strategies, which might explain its lower interaction.

Additionally, groups that included specific details, e.g., location, operating hours, promotional offers and well-chosen hashtags, appear to have performed better in audience engagement. This highlights the importance of adapting translations to audience expectations, rather than solely focusing on linguistic accuracy. These audience response patterns offer opportunities for students to reflect on the effectiveness of their translations and help explain the perceived value of public feedback, which is explored in the next section.

Figure 3

Third Round: *Strategic Translation with ChatGPT of Group 3 and Group 5*

Group 3

From one generation to the next—counting the years from 1987 to 2025

Jae Ouan Grilled Chicken – The original grilled chicken from Nakhon Pathom, "Khong Trae," just ONE branch ❗ No franchises.❌

"Quality, cleanliness, flavor, and fair pricing"

These are the values we uphold, because if it's good enough for us, it's good enough for you.

What's changed? Social media! Customers share their reviews, and word-of-mouth spreads thedeliciousness,bringing even more food lovers to us.

Some even call ahead! Some are lucky enough to get a taste, while others miss out. We're sorry to those who couldn't try it yet, but we're grateful to all who loved it and shared the experience. Thanks to you, Jae Ouan Grilled Chicken is now well-known far and wide — North, South, East, West, everywhere! 🌍

#Auntie Aiad Jae Ouan – The beautiful and kind lady from the internet! **#Credit:** Customer video from TikTok You've made us famous with your awesome video! Other vendors keep asking how much we paid for it, haha! 😅 She can't quite remember the customer's face, but she guess it was a waterfall train trip vibe Big thanks to our sweet customers!

📍 Location: Near Giant Bridge, opposite Krung Thai Bank Nakhon Pathom Branch, Nakhon Pathom 73000

🕐 Opening Hours: Every day from 6:00 AM - 12:00 PM

#JaeAuanGrilledChicken #NakhonPathomFood #LegendaryTaste #NoBranches #MustTry

Group 5

✨ From Mother's Generation to the Child's Generation ✨ (Count the years on your fingers! 1987 → 2024 😊)

Jae Ouan Grilled Chicken – The legendary grilled chicken of Nakhon Pathom!

The one and only, with no branches!

✅ Standard | Quality | Cleanliness | Taste | Price ✅

These are the core values we hold dear. "If we can eat it, you can eat it too!" 🍽️✨

🌎 What has changed over the years? Social media! Thanks to our amazing customers who leave reviews and spread the word, more and more people are traveling to try our famous grilled chicken! 🚗

Some call ahead, some finally get to taste it, while others leave disappointed because they couldn't get a chance to try it. 😢

🙏 We sincerely apologize to those who missed out and a huge thank you to everyone who has enjoyed our food and shared the love!

Because of you, Jae Ouan Grilled Chicken is now known far and wide—North, South, East, and West! 🌍✨

#Aunt Ieat (Jae Ouan or Pa Ouan) – The kind and beautiful legend from the Internet

#Video credit: A customer's TikTok post that made fellow vendors ask,

"How much did you pay for that ad?" 😂

#We can't remember the customer's face, but we guess they were from the Waterfall Train Tour!

#Thank you to all our lovely customers!

⏰ Open DAILY: 6:00 AM - 12:00 PM

📞 Call us: 085 519 4372

📍 Location: https://preview.app.goo.gl/maps.app.goo.gl/Vo2h3AyCMMJiB6kS9

4.3 Insights from individual written reflections

This section continues to present the findings related to RQ2 by presenting students' reflections on their experiences using AI tools and responding to public feedback. The students' individual written reflections appear to provide key insights into their experiences with AI tools, their engagement with public feedback, and their evolving understanding of the translation process. Many students noted that AI tools seemed to improve the accuracy of the translation and the selection of vocabulary, yet they also emphasised the need for human oversight in order to ensure contextual appropriateness, cultural adaptation, and naturalness.

For example, one student (Participant 2) reported the following:

> AI tools help me improve in areas like sentence structure, choosing the right tense, and finding similar words [as a thesaurus]. While they are helpful, there are some issues, such as the flow and naturalness of the language. Sometimes, AI translations can be too literal and sound unnatural.

Another student (Participant 5) stated:

> AI tools are a great help to me in translation. They suggest a variety of words for my translations and help me to learn new vocabulary. AI tools also check sentence structures, making my translations more accurate, smoother, and better structured. However, I would like AI tools to improve the naturalness of the language, as sometimes the translations still sound unnatural.

Beyond the issue of accuracy, several students stressed the importance of balancing AI-generated outputs with human creativity. Participant 6 highlighted this need for active human refinement:

> Using AI for advertisement translation saves time and makes the wording more polished than manual translation. However, we still review AI-generated translations because we don't fully rely on AI. We make small changes to improve word choices using AI as a translation assistant. After translating and editing, we used AI to enhance the ad by adding emojis and improving the wording to make it more engaging.

Additionally, student reflections indicated that public feedback was instrumental in refining their translation skills and in understanding audience expectations. Participant 16 noted:

> I think that public feedback from [social media] likes and comments helps me to understand whether or not the audience appreciates the language used in the translation. Some words draw more attention because they are easier to read and understand quickly. This makes me realise that a good translation is not just about accuracy but is also about sounding natural.

Furthermore, the students who actively used audience feedback as a learning tool were able to adjust their translation approach to better meet reader expectations. As Participant 17 explained:

> After considering the likes and comments, I have learned that people prefer translations that are easy to read and not too long. The language should be simple enough for all age groups to understand, with concise content that maintains the original tone. Translations that draw attention are usually those that clearly convey meaning and which use natural, reader-friendly language. Moreover, adding emojis can make the text more engaging, and using interesting and fresh expressions can enhance its appeal.

These reflections suggest that AI tools may be most effective when used as a support tool rather than as a substitute for human translators. Indeed, students who actively refined AI-generated text and integrated

public feedback into their revisions tended to produce more engaging and effective translations. In sum, the reflections and public engagement results demonstrate that students apparently became more critically aware of both the advantages and limitations of AI tools and of how real-world audience feedback informed their translation decisions, thus directly addressing RQ2.

4.4 Findings from group interviews

The group interviews provided further insights into how students navigated AI-assisted translation, their decision-making processes, and their responses to audience feedback. Two groups, Group 3 and Group 5, were selected for interviews due to their contrasting levels of engagement and translation performance.

Group 3 – High social media engagement, moderate translation score

According to Group 3, their translation strategy seemed to prioritise audience engagement. They initially translated the content manually, then refined it with AI, and finally adapted it for social media appeal. Participant 19 explained:

> We try to use simple words, like 'hot crispy pork' and 'perfect for lunch, dinner, or any time,' so that people who aren't fluent in English can easily understand. We think that the word 'refill' is already commonly used, so we kept it as it is. Furthermore, it's important to add clear details about the shop, like opening and closing times and the exact location.

A key finding was that public engagement might have been influenced not only by translation quality but also by content promotion. One member reflected:

> Our post got a lot of likes, but this might not only be because of the translation itself but also because we had people supporting us. Some groups may have done a great job translating, but they didn't share their work widely or ask for feedback.

This suggests that effective translation for a social media audience could require both linguistic accuracy and strategic content promotion. Their use of engaging elements, humour, and interactive hashtags likely contributed to more audience interaction, as shown in Figure 2.

Group 5 – Low social media engagement, lower translation score

In contrast, Group 5 participants explained that their translation, while accurate, lacked engagement features. One participant noted:

> We thought our translation was well-done, but we didn't add many hashtags or an interesting call-to-action. We also didn't share the post much, so not many people saw it.

Additionally, the group acknowledged their over-reliance on AI-generated text. One participant stated:

> AI helped us translate quickly, but we didn't change much in the final version. Looking back, I think we should have added more creative elements to make it more engaging.

Another key finding was that even minimal audience feedback appeared to influence student motivation. One participant stated:

> Even just one comment saying 'I like it' was encouraging. Having people engage with our work motivated us and helped us to see things that we could improve.

Group 5's experience reinforces the notion that translation effectiveness extends beyond linguistic accuracy to also depend on creativity, audience awareness, and engagement strategies. Group 5's lower engagement could be attributed to a lack of social media adaptation, further demonstrating the importance of balancing AI precision with human creativity.

5 Discussion

5.1 The role of AI in enhancing translation accuracy and creativity

This study demonstrates that AI-assisted translation may enhance accuracy, fluency, and, potentially, depending on how translation exercises are structured, creativity. This finding aligns with previous research on AI integration in language learning and translation (Alharbi, 2023; Klimova et al., 2023; Mahdi & Sahari, 2024). In the study, the transition from human-only translation to AI-assisted translation led to clear improvements in grammatical accuracy, lexical choice, and overall readability. This finding echoes the research of Yefymenko et al. (2024), who highlighted AI's role in reducing structural errors and in supporting learners in refining the construction of their sentences.

However, while AI apparently contributed positively to the efficiency of translation, several participants noted concerns about an over-reliance on AI-generated text, which sometimes resulted in overly literal translations or awkward phrasing. This supports the findings of Boonmoh and Kulavichian (2023), who observed that the Thai PSTs in their study often struggled with AI-generated content that lacked contextual appropriateness. Furthermore, while AI tools were particularly beneficial in improving creativity, especially in the field of social media translation, the final product still required human intervention in order to optimise engagement strategies. These findings align with those of Thabet and Qadha (2024), who found that while AI-assisted translation enhances stylistic expression, human refinements are necessary for culturally and contextually aligning the translated text.

This shift in translation pedagogy from a reliance on dictionaries and basic online tools to employing AI-powered generative models like ChatGPT suggests that translation training might need to evolve accordingly. In the past, students relied on printed dictionaries, bilingual dictionaries, and online glossaries as their main translation resources. Subsequently, tools such as GT became common in translation training, but these tools mainly provided word-for-word translations. For instance, Boonmoh and Boonkhaos (2025) demonstrated how targeted training in GT helped Thai university students to improve sentence precision and grammatical accuracy in English summaries, underscoring the value of guided AI tool use in earlier phases of translation pedagogy. Now, with the availability of generative AI tools like ChatGPT, translation classrooms may need to adapt to rapid technological changes.

The key question for educators is no longer whether or not AI should be banned but how it should be integrated meaningfully into the learning process (Guan et al., 2025; Huang, 2023; Huang & Mizumoto, 2024; Mabuan, 2024; Son et al., 2023; Yefymenko et al., 2024). The present study suggests that translation instructors could move away from the idea that they are the sole evaluators of translation quality. Instead, involving peer and public feedback as an additional evaluation source, as demonstrated in this study, may provide valuable insights into how translated content resonates with real audiences.

5.2 Balancing AI assistance with human judgment in translation

One of the key challenges encountered in this study was how the students balanced AI-generated translations with human judgment. While the AI significantly improved linguistic accuracy, the participants reported that it required additional refinement in order to ensure the appropriate tone, cultural relevance, and audience engagement. This aligns with the findings of Marrone et al. (2022) and Chen (2024), who emphasise that AI cannot fully replace human creativity in translation but can serve as a collaborative tool in the translation process.

The findings also revealed that the students who actively engaged with AI outputs, rather than passively accepting them, produced the most effective translations. The contrasting performances of Groups 3 and 5 (see Table 2 and Figure 2) highlight the importance of human intervention in AI-assisted translation. Group 3's translation was not the most linguistically accurate, but it received the highest public engagement because the students creatively adapted the AI-generated text in order to improve readability, relatability, and audience appeal. In contrast, Group 5's translation was more accurate yet received minimal interaction, as it lacked compelling engagement features such as effective calls-to-action, appropriate emoji placement, and strategic hashtag use.

These findings reinforce the AI-human collaborative model proposed by Gutierrez (2024), in which AI supports initial structural and lexical accuracy while human translators refine subsequent texts for engagement, nuance, and communicative effectiveness. Our findings confirm that AI is best leveraged as a collaborative tool rather than used as a stand-alone translation solution.

5.3 The impact of public feedback on translation awareness

In this study, public feedback emerged as a powerful tool for teaching translation. The participants noted that audience engagement in the form of likes and comments helped them to understand which linguistic and stylistic choices resonated most with readers. This reinforces the findings of Bui et al. (2023), who found that interactive feedback mechanisms improve students' ability to adjust their writing according to audience reception.

One of the most important takeaways from this study is that the effectiveness of translation in a social media context is not determined solely by linguistic accuracy but also by engagement-driven adaptations. Students observed that shorter, more conversational translations with humour and visual elements, e.g., emojis, tended to receive higher engagement, reinforcing Hyland and Hyland's (2019) argument that feedback-driven interaction strengthens students' ability to tailor their communication for different audiences.

Moreover, peer and public feedback may provide motivation and validation, encouraging students to view translation as an interactive and iterative process rather than as a static task. This aligns with the findings of Kusuma's research (2022), which argued that receiving external feedback helps language learners to refine their writing and to develop a stronger sense of audience expectations.

5.4 Implications for AI-integrated translation education

This study's findings lead to several pedagogical suggestions for teaching translation. Firstly, AI literacy training would appear to be essential (Todd, 2025), as students can benefit from structured guidance on how to critically evaluate and refine AI-generated translations rather than rely on them uncritically. This recommendation aligns with recommendations by Guan et al. (2025) on the importance of proper AI-assisted language learning. Such training should help students to understand both the capabilities and limitations of tools like ChatGPT, and it should encourage them to use AI as a tool rather than as a replacement for human reasoning.

Secondly, task-based AI translation exercises that require students to iteratively refine AI outputs based on audience feedback should be implemented in EFL PST classrooms. Such an approach aligns with the technology-enhanced translation training framework proposed by Pokrivcakova (2023). Tasks should promote not only accuracy but also strategic thinking, thereby encouraging students to question, revise, and tailor AI outputs rather than to accept them at face value.

Thirdly, audience awareness translation strategies should be incorporated into translation education, particularly in the form of social media-based exercises, in order to help students to develop real-world engagement techniques. As suggested by Kraeva and Krasnopeyeva (2020), training students to adapt

translations for different audiences might enhance both their linguistic and communicative competence. Public feedback mechanisms, such as likes and comments, can motivate students to consider tone, clarity, and cultural alignment, reinforcing the link between language choices and real-world reception.

However, when students are introduced to generative AI tools, performance improvements may not always reflect meaningful learning. The question remains: are students developing transferable translation skills, or are they simply relying on AI to "do the work"? Therefore, in order to support long-term development, students should be trained to craft effective prompts, select appropriate verbs and the correct tone for their target context, and use AI outputs as reference points for revision rather than as final products. Critical thinking should be explicitly fostered through multiple rounds of revision, reflective writing, and teacher scaffolding.

In other words, the use of AI in translation tasks must occur under pedagogical supervision. Teachers play a crucial role in ensuring that students engage with AI constructively, by developing their linguistic competence rather than by passively copying AI-generated content. As Polakova and Ivenz (2024) point out, instructor guidance remains a necessary component in any AI-integrated classroom.

Finally, balancing AI with human judgment remains critical. Teachers should position AI as a tool that enhances translation, not as a substitute for human decision making. As Marrone et al. (2022) emphasise, human translators continue to be indispensable in ensuring cultural relevance, creativity, and contextual appropriateness in AI-assisted translation. This study suggests that while AI supports structural quality, human insight determines a text's connection with its audience and its creative adaptation, with all these skills being central to any professional translation practice.

6 Conclusion

While this study provides valuable insights into the teaching of AI-assisted translation, it has several limitations. Firstly, the findings are somewhat context specific, as the study focused only on Thai PSTs. For instance, not every cultural context or register values the use of emojis. As a result, the outcomes may not be fully generalizable to other linguistic and educational settings.

Secondly, the observed improvements may be closely tied to the way that the translation tasks were structured, particularly the staged and reflective nature of the activity. Future research should explore AI-assisted translation pedagogy in a variety of cultural and educational contexts in order to assess its broader applicability (Sucháňová, 2023).

Thirdly, the study employed a small sample from one university in Thailand, with a cohort spanning only a few provinces, which may restrict the generalizability of its findings. Had the study incorporated students from other Thai universities or from institutions overseas, its outcomes might have differed. These limitations should be considered when interpreting the findings and their implications.

Fourthly, this was a short-term study, conducted over a three-week period. It indeed provided meaningful insights into the immediate effects of AI integration in translation education. However, a longitudinal study, for instance over the period of a whole translation course or over a series of such courses, would offer a more comprehensive understanding of how students' AI-assisted translation skills develop over time (Mahdi & Sahari, 2024).

Finally, while public feedback provided valuable insights into the effectiveness of translation and into audience engagement, this study did not include expert evaluations from professional translators, only from English language educators. Future research should incorporate expert assessments in order to provide a more nuanced understanding of the quality of AI-assisted PST translation from a professional perspective (Desjardins, 2017). In addition, future studies could include a control group of students who complete translation tasks without AI tools, allowing researchers to better understand the added value of AI assistance. Research could also explore how different genres and cross-cultural factors influence the effectiveness of AI-supported translation learning, particularly in tasks beyond social media translation.

To conclude, this study confirms that AI-assisted translation can improve the accuracy, fluency, and creativity of learners' translations. However, it also found that human refinement remains essential for producing effective and engaging translations. The iterative AI-human translation process that the study embraced seemingly enabled students to develop both linguistic precision and audience awareness, reinforcing the importance of balancing technology with human creativity.

However, whether the improvement came from real learning or simply from depending on AI tools remains unclear. To help students develop long-term translation skills, instructors should guide them in using AI carefully, i.e., by not just accepting the AI output, but by asking better questions (AI prompts), comparing different suggestions, and revising the work with their own ideas. Activities such as prompt training, peer feedback, and discussion can help students to learn to use AI critically, not as a shortcut, but as a support.

Acknowledgements

The authors would like to express their sincere gratitude to the School of Liberal Arts at King Mongkut's University of Technology Thonburi and Faculty of Humanities and Social Sciences at Nakhon Pathom Rajabhat University for their valuable support throughout this study. Special thanks are extended to the participating PSTs for their time, cooperation, and insightful contributions. The authors also appreciate the constructive feedback provided by colleagues and two anonymous reviewers for their constructive feedback, which helped enhance the quality of this paper. The authors declare that AI tools were used only to assist in language editing (to improve clarity and readability), in summarizing selected research articles for the literature review section, and in supporting basic quantitative data analysis (e.g., counting frequencies); no AI tools were used for interpretation, drawing conclusions, or writing up the manuscript.

References

Abdallah, M. M. S. (2025). Using contextualized instruction through Reverso Context to develop EFL student teachers' translation skills. *Sohag University International Journal of Educational Research, 11*(1). https://files.eric.ed.gov/fulltext/ED663604.pdf

Alalimi, M. (2020). The impact of weblogs on teaching translation: Yemeni learners' attitudes and perceptions. *Anatolian Journal of Education, 5*(2), 59–72. https://doi.org/10.29333/aje.2020.525a

Alharbi, W. (2023). The use and abuse of artificial intelligence-enabled machine translation in the EFL classroom: An exploratory study. *Journal of Education and E-Learning Research, 10*(4), 689–701. https://doi.org/10.20448/jeelr.v10i4.5091

Bae, H., Jaesung, H., Park, J., Woong Choi, G., & Moon, J. (2024). Pre-service teachers' dual perspectives on generative AI: Benefits, challenges, and integration into their teaching and learning. *Online Learning Journal, 28*(3), 131–156.https://doi.org/10.24059/olj.v28i3.4543

Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *Assessing Writing, 57, 100745*. https://doi.org/10.1016/j.asw.2023.100745

Boonmoh, A., & Kulavichian, I. (2023). A Study of Thai EFL Learners' Problems with using Online Tools and Dictionaries in English-To-Thai Translation. *Kasetsart Journal of Social Sciences, 44*(2), 497–508. https://doi.org/10.34044/j.kjss.2023.44.2.20

Boonmoh, A., & Boonkhaos, K. (2025). The effect of using Google Translate and other online resources on English summaries written by Thai EFL university learners. *CALICO Journal, 42*(1). https://doi.org/10.3138/calico-2024-1226

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3(2), 77–101*. https://doi.org/10.1191/1478088706qp063oa

Bui, H. P., Ulla, M. B., Tarrayo, V. N., & Pham, C. T. (2023). Editorial: The roles of social media in education: Affective, behavioral, and cognitive dimensions. *Frontiers in Psychology, 14*, 1287728. https://doi.org/10.3389/fpsyg.2023.1287728

Chen, Y.-C. (2024). Perceptions of AI-facilitated creativity in language education: A study on digital storytelling. *The JALT CALL Journal, 20*(3), 2089. https://doi.org/10.29140/jaltcall.v20n3.2089

Cong-Lem, N., Soyoof, A., & Tsering, D. (2024). A systematic review of the limitations and associated opportunities of ChatGPT. *International Journal of Human–Computer Interaction.* https://doi.org/10.1080/10447318.2024.2344142

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE.

Desjardins, R. (2017). *Translation and social media: In theory, in training and in professional practice.* Palgrave Macmillan.

Duan, H., & Zhao, W. (2024). The Effects of Educational Artificial Intelligence-Powered Applications on Teachers' Perceived Autonomy, Professional Development for Online Teaching, and Digital Burnout. *The International Review of Research in Open and Distributed Learning, 25*(3), 57–76. https://doi.org/10.19173/irrodl.v25i3.7659

Elverici, S. E. (2021). Can social media promote social presence and attitude in EFL classes? *Turkish Online Journal of Distance Education, 22*(1), 133–147. https://eric.ed.gov/?id=EJ1283341

Estaiteyeh, M., & McQuirter, R. (2024). Generative or Degenerative?! Implications of AI Tools in Pre-Service Teacher Education and Reflections on Instructors' Professional Development. *Brock Education Journal*, *33*(3), 75–98. https://doi.org/10.26522/brocked.v33i3.1176

Flanagan, M., & Heine, C. (2015). Peer-feedback as a translation training tool in web-based communication. *HERMES - Journal of Language and Communication in Business, 27*(54), 115–136. https://doi.org/10.7146/hjlcb.v27i54.22951

Friedman, M. (1937). The use of ranks to avoid the assumption of normality implicit in the analysis of variance. *Journal of the American Statistical Association, 32*(200), 675–701.

Gao, Y., Wang, Q., & Wang, X. (2024). Exploring EFL university teachers' beliefs in integrating ChatGPT and other large language models in language education: A study in China. *Asia Pacific Journal of Education, 44(1), 29–44.*

Ghimire, S. P. (2022). Secondary students' learning English through social media: A case study in Nepal. *International Journal of Research in Education and Science (IJRES), 8*(3), 529–544. https://files.eric.ed.gov/fulltext/EJ1347207.pdf

Guan, L., Zhang, Y., & Gu, M. M. (2025). Pre-service teachers' preparedness for AI-integrated education: An investigation from perceptions, capabilities, and teachers' identity changes. *Computers and Education: Artificial Intelligence, 8*, 1–10. https://doi.org/10.1016/j.caeai.2024.100341

Gutierrez, R. (2024). Unifying linguistic landscapes: The potential of AI and nanotechnology in facilitating real-time translation. In W. Jaber (Ed.), *Artificial intelligence in the age of nanotechnology* (pp. 76–97). IGI Global. https://doi.org/10.4018/979-8-3693-0368-9.ch005

Halaweh, M. (2023). ChatGPT in education: Strategies for responsible implementation. *Contemporary Educational Technology, 15*(2), ep421. https://doi.org/10.30935/cedtech/13036

Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Centre for Curriculum Redesign. https://curriculumredesign.org/wp-content/uploads/AIED-Book-Excerpt-CCR.pdf

Huang, J. (2023). Engineering ChatGPT prompts for EFL writing classes. *International Journal of TESOL Studies, 5*(4), 73–79. https://doi.org/10.58304/ijts.20230405

Huang, J., & Mizumoto, A. (2024). Examining the effect of generative AI on students' motivation and writing self-efficacy. *Digital Applied Linguistics*, *1*, 102324. https://doi.org/10.29140/dal.v1.102324

Huang, J., & Teng, M. F. (2025). Peer feedback and ChatGPT-generated feedback on Japanese EFL students' engagement in a foreign language writing context. *Digital Applied Linguistics, 2,* 102469. https://doi.org/10.29140/dal.v2.102469

Hyland, K., & Hyland, F. (Eds.). (2019). *Feedback in second language writing* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/9781108635547

Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences, 103*, 102274. https://doi.org/10.1016/j.lindif.2023.102274

Kerr, R. C. (2024). The effects of a short-term workshop on in-service language teachers' perceptions and use of generative AI. *The Journal of Modern British and American Language and Literature, 42(2), 147–170.*

Kerr, R. C., & Kim, H. (2025). From prompts to plans: A case study of pre-service EFL teachers' use of generative AI for lesson planning. *English Teaching, 80*(1), 95–118. https://doi.org/10.15858/engtea.80.1.202503.95

Kessler, G. (2021). Current realities and future challenges for CALL teacher preparation. *CALICO Journal, 38*(3). https://doi.org/10.1558/cj.21231

Kim, S., Shim, J., & Shim, J. (2023). A study on the utilization of OpenAI ChatGPT as a second language learning tool. *Journal of Multimedia Information System, 10*(1), 79–88. https://doi.org/10.33851/JMIS.2023.10.1.79

Klimova, B., Pikhart, M., Benites, A. D., Leh, C., & Sanchez-Stockhammer, C. (2023). Neural machine translation in foreign language teaching and learning: A systematic review. *Education and Information Technologies, 28*, 663–682. https://doi.org/10.1007/s10639-022-11194-2

Kraeva, S., & Krasnopeyeva, E. (2020). Judging translation on social media: A pragmatic look at YouTube comment section. *The European Proceedings of Social & Behavioural Sciences, 10*, 777–784. https://doi.org/10.15405/epsbs.2020.08.91

Krippendorff, K. (2019). *Content analysis.* SAGE Publications, Inc., https://doi.org/10.4135/9781071878781

Kusuma, I. P. I. (2022). "Why this and not that social media?" Reasons for using technology during online practice teaching. *The JALT CALL Journal, 18*(2), 264–285. https://doi.org/10.29140/jaltcall.v18n2.593

Loock, R., & Holt, B. (2024). Augmented linguistic analysis skills: Machine translation and generative AI as pedagogical aids for analyzing complex English compounds. *Technology in Language Teaching & Learning, 6*(3), 1489. https://doi.org/10.29140/tltl.v6n3.1489

Luckin, R., Cukurova, M., Kent, C., & du Boulay, B. (2022). Empowering educators to be AI-ready. *Computers and Education: Artificial Intelligence, 3*, 100076. https://doi.org/10.1016/j.caeai.2022.100076

Mabuan, R. A. (2024). ChatGPT and ELT: Exploring teachers' voices. *International Journal of Technology in Education (IJTE), 7*(1), 128–153. https://doi.org/10.46328/ijte.523

Mahdi, H. S., & Sahari, Y. M. (2024). Exploring the relationship between critical thinking, attitude, and anxiety in shaping the adoption of artificial intelligence in translation among Saudi translators. *Journal of Pedagogical Research, 8*(2), 81–94. https://doi.org/10.33902/JPR.202423345

Marrone, R., Taddeo, V., & Hill, G. (2022). Creativity and artificial intelligence—A student perspective. *Journal of Intelligence, 10*(3), Article 65. https://doi.org/10.3390/jintelligence10030065

Murtisari, E. T., Widiningrum, R., Branata, J., & Susanto, R. D. (2019). Google Translate in language learning: Indonesian EFL students' attitudes. *The Journal of Asia TEFL, 16*(3), 978–986. https://doi.org/10.18823/asiatefl.2019.16.3.14.978

Mustroph, C., & Steinbock, J. (2024). ChatGPT in foreign language education—Friend or foe? A quantitative study on pre-service teachers' beliefs. *Technology in Language Teaching & Learning, 6*(1), 1133. https://doi.org/10.29140/tltl.v6n1.1133

Nyaaba, M., Shi, L., Nabang, M., Zhai, X., Kyeremeh, P., Ayoberd, S. A., & Akanzire, B. N. (2024). Generative AI as a learning buddy and teaching assistant: Pre-service teachers' uses and attitudes. *arXiv preprint* arXiv:2407.11983. https://doi.org/10.48550/arXiv.2407.11983

Pokrivčáková, S. (2023). Pre-service teachers' attitudes towards artificial intelligence and its integration into EFL teaching and learning. *Journal of Language and Cultural Education, 11*(3), 100–114. https://doi.org/10.2478/jolace-2023-0031

Polakova, P., & Ivenz, R. (2024). AI in education: Improving grammar and structure in student writing. *Computers & Learning, 30*(5), 221–240. https://doi.org/10.1080/2331186X.2024.2410101

Prahani, B., Rizki, I., Jatmiko, B., Suprapto, N., & Tan, A. (2022). Artificial intelligence in education research during the last ten years: A review and bibliometric study. *International Journal of Emerging Technologies in Learning (iJET), 17*(8), 169–188.

Pym, A. (2023). *Exploring translation theories* (3rd ed.). Routledge.

Santosa, M. H., Yanti, G. A. M. T., & Adnyani, L. D. S. (2024). The integration of Google Translate as a machine translation aid in EFL students' thesis composition. *LLT Journal: A Journal on Language and Language Teaching, 27*(1), 214–229. https://e-journal.usd.ac.id/index.php/LLT/article/view/3734/3919

Söğüt, S. (2024). Generative artificial intelligence in EFL writing: A pedagogical stance of pre-service teachers and teacher trainers. *Focus on ELT Journal, 6(1), 58–73.* https://doi.org/10.14744/felt.6.1.5

Solak, E. (2024). Revolutionizing language learning: How ChatGPT and AI are changing the way we learn languages. *International Journal of Technology in Education (IJTE), 7*(2), 353–372. https://doi.org/10.46328/ijte.732

Son, J., Ružić, N. & Philpott, A. (2023). Artificial intelligence technologies and applications for language learning and teaching. *Journal of China Computer-Assisted Language Learning*. https://doi.org/10.1515/jccall-2023-0015

Soori, M., Arezoo, B., & Dastres, R. (2023). Artificial intelligence, machine learning, and deep learning in advanced robotics: A review. *Cognitive Robotics, 3*, 54–70. https://doi.org/10.1016/j.cogr.2023.04.001

Srinivasan, V. (2022). AI & learning: A preferred future. *Computers and Education: Artificial Intelligence, 3,* 100062. https://doi.org/10.1016/j.caeai.2022.100062

Su, J., & Yang, W. (2023). Unlocking the power of ChatGPT: A framework for applying generative AI in education. *ECNU Review of Education.* https://doi.org/10.1177/20965311231168423

Sucháňová, Z. (2023). AI tools for pre-service EFL teachers: Exploring applications and implications. In M. Demirbilek, M. S. Ozturk, & M. Unal (Eds.), *Proceedings of ICSES 2023—International Conference on Studies in Education and Social Sciences* (pp. 638–654). ISTES Organization.

Sumakul, D. T., Hamied, F. A., & Sukyadi, D. (2022). Artificial intelligence in EFL classrooms: Friend or foe? *LEARN Journal: Language Education and Acquisition Research Network, 15*(1), 232–256.

Teng, M. F. (2024). "ChatGPT is the companion, not enemies": EFL learners' perceptions and experiences in using ChatGPT for feedback in writing. *Computers and Education: Artificial Intelligence, 7,* 100270. https://doi.org/10.1016/j.caeai.2024.100270

Teng, M. F. (2025). Examining longitudinal development of writing motivation in the GenAI context: A self-determination theory perspective. *Learning and Motivation, 91,* 102157. https://doi.org/10.1016/j.lmot.2025.102157

Taşçı, S., & Tunaz, M. (2024). Opportunities and challenges in AI-assisted language teaching: Perceptions of pre-service EFL teachers. *Research and Experience Journal, 9*(2), 74–83. https://doi.org/10.47214/adeder.1575897

Thabet, M. A., & Qadha, A. M. (2024). The influence of AI-based translation tools on the translation of Dr. Ghazi Al-Qusaibi's poetry by Saudi EFL learners. *Humanities and Educational Sciences Journal, (38)*, 772–799. https://doi.org/10.55074/hesj.vi38.1046

Todd, R. W. (2025). Generative AI as a disrupter of language education. *International Journal of TESOL Studies, 7*(2), 37–45. https://doi.org/10.58304/ijts.250127

Tran, T. T., Pham, T. T., & Le, T. T. (2024). Transformative interactions: ChatGPT's role in facilitating professional development among Vietnamese English as a foreign language teachers. *Higher Learning Research Communications, 14*(2), 48–63. https://doi.org/10.18870/hlrc.v14i2.1558

van den Berg, G., & du Plessis, E. (2023). ChatGPT and generative AI: Possibilities for its contribution to lesson planning, critical thinking and openness in teacher education. *Education Sciences, 13(10), 998.*

Wilcoxon, F. (1945). Individual comparisons by ranking methods. *Biometrics Bulletin, 1*(6), 80–83.

Wu, C., Yu, H., Moorhouse, B. L., & Wu, M. (2025). Unveiling students' experiences and perspectives of generative AI-assisted translation in a Hong Kong university: perceived benefits, limitations, and suggestions. *Digital Applied Linguistics, 2,* 102600. https://doi.org/10.29140/dal.v2.102600

Yefymenko, T., Bilous, T., Zhukovska, A., Sieriakova, I., & Moyseyenko, I. (2024). Technologies for using interactive artificial intelligence tools in the teaching of foreign languages and translation. *Amazonia Investiga, 13*(74), 299–307. https://doi.org/10.34069/AI/2024.74.02.25

Atipat Boonmoh (Ph.D.) is an associate professor at KMUTT. He received his Ph.D. from the University of Warwick, UK. He has authored more than 20 journal articles and two book chapters. He is a member of the editorial board for rEFLections, a Scopus-indexed journal. His areas of expertise and areas of interest in research include Lexicography, Computer-Assisted Language Learning (CALL), Autonomy, and Learning Strategies.

Intrira Kulavichian is an English lecturer at Faculty of Humanities and Social Sciences, Nakhon Pathom Rajabhat University. She received an MA in Applied Linguistics for English Language Teaching from the School of Liberal Arts, King Mongkut's University of Technology Thonburi, Bangkok, Thailand. Her main areas of interest are teacher development, teacher education, and use of technology in language teaching.