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Learners' Thinking Tendencies in Chinese–Japanese Translation: Focusing on the Use of Generative AI

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Abstract

This study aims to clarify learners' thinking tendencies when using generative AI for Chinese–Japanese translation. A questionnaire survey was conducted with 40 students in the Department of Japanese at I-Shou University. The data were analyzed from four aspects: “understanding the source text,” “identifying translation problems,” “evaluating AI translations,” and “making translation decisions.” The mean scores for all four aspects were above the midpoint of 3. In particular, “evaluating AI translations” and “making translation decisions” showed relatively high scores. These results suggest that learners tend to use generative AI as a support tool for understanding and decision-making rather than simply relying on it to produce translations.

Keywords: Chinese–Japanese translation, learners, generative AI, thinking tendencies, AI evaluation

1. Introduction

In recent years, the development of generative artificial intelligence (AI), including ChatGPT, has greatly changed foreign language and translation learning. Generative AI can provide translations, multiple translation options, explanations of vocabulary and grammar, and revisions of translations. It is therefore increasingly used as a tool to support translation learning.

However, AI-generated translations do not always accurately reflect the meaning, context, or cultural background of the source text. Learners therefore need to examine AI output rather than simply accept it. In the age of generative AI, it is important to focus not only on the final translation but also

on how learners understand the source text, identify translation problems, evaluate AI output, and make final translation decisions.

With the use of generative AI, however, learners also need to decide whether to accept, revise, or reject AI-generated translations. Therefore, this study examines learners' thinking processes in Chinese–Japanese translation from four aspects: “understanding the source text,” “identifying translation problems,” “evaluating AI translations,” and “making translation decisions.”

2. Literature Review

In the field of Japanese language education, Lai (2024) reviewed the use of generative AI in Taiwanese universities and pointed out several benefits, including convenience, reduced time and costs, improved ability to ask questions, and promotion of autonomous learning. However, insufficient AI literacy may also lead to problems such as concerns about information accuracy, reduced thinking ability, and excessive dependence on AI. Therefore, the study emphasizes the importance of understanding both the advantages and disadvantages of AI and combining AI with human knowledge and judgment.

In addition, Lo (2025) examined the effects of generative AI on learners' expressive competence and AI literacy. The study found that generative AI can help improve vocabulary use and logical organization, but may also lead to problems such as reduced learner autonomy and dependence on AI. Therefore, it is important to use AI not simply as a tool for revising sentences, but as a collaborative partner that encourages learners to think through activities such as comparison, evaluation, and reflection.

Based on these studies, when using generative AI for learning, it is important for learners not to simply accept AI-generated output, but to evaluate the content and make their own judgments. In translation learning, in particular, learners need to understand the source text, identify translation problems, evaluate AI-generated translations, and then decide on the final translation. Therefore, this study examines learners' thinking processes in Chinese–Japanese translation using generative AI from four aspects: “understanding the source text,” “identifying translation problems,” “evaluating AI translations,” and “making translation decisions.”

3. Research Design

3.1 Research Purpose and Research Question

This study aims to clarify learners' thinking tendencies in Chinese–Japanese translation using

generative AI. A questionnaire survey was conducted with students in the Department of Japanese at University A, focusing on four aspects: “understanding the source text,” “identifying translation problems,” “evaluating AI translations,” and “making translation decisions.”

The research question is as follows:

In Chinese–Japanese translation using generative AI, what kinds of thinking tendencies do learners demonstrate in terms of understanding the source text, identifying translation problems, evaluating AI translations, and making translation decisions?

3.2 Participants

A questionnaire survey was conducted with 40 students in the Department of Japanese at I-Shou University, and all 40 responses were valid. Most participants had studied Japanese for more than two years, and the largest group had passed JLPT N3, accounting for 42.5% of the participants.

3.3 Questionnaire Structure

The questionnaire consisted of items concerning participants’ backgrounds, use of generative AI, and their thinking tendencies in Chinese–Japanese translation. This study focused on 20 items measuring learners’ thinking tendencies.

The items were answered using a five-point Likert scale: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, and 5 = Strongly agree.

3.3.1 Thinking Processes in Translation Using Generative AI

Four aspects were established: “understanding the source text,” “identifying translation problems,” “evaluating AI translations,” and “making translation decisions.” Each aspect consisted of five items, for a total of 20 items.

“Understanding the source text” concerns the overall meaning, main points, context, and sentence structure. “Identifying translation problems” concerns uncertain or difficult expressions and possible translation choices. “Evaluating AI translations” concerns the accuracy, contextual appropriateness, and naturalness of AI-generated translations. “Making translation decisions” concerns the learner’s final decision after comparing their own translation with the AI-generated translation.

3.3.2 Question Items

The items were designed to examine learners’ awareness and decision-making when using generative AI for translation.

(1) Understanding the Source Text

- Q1.** Before starting the translation, I first confirm the overall meaning of the source text.
- Q2.** Before translating, I consider the main points of the source text.
- Q3.** When I encounter unfamiliar vocabulary, I first try to infer its meaning from the context.
- Q4.** I pay attention to the subjects, verbs, and relationships between sentences in the source text.
- Q5.** Rather than focusing only on individual words, I understand the meaning of words and sentences from the context of the text.

(2) Identifying Translation Problems

- Q6.** When translating, I actively pay attention to parts that I am uncertain about.
- Q7.** I consider which words or sentences are difficult to translate.
- Q8.** When a sentence can be translated in more than one way, I consider which translation is the most appropriate.
- Q9.** I pay attention to possible cultural differences in the source text.
- Q10.** When I notice that there may be a problem with my understanding, I check the source text again.

(3) Evaluating AI Translations

- Q11.** After seeing the translation provided by AI, I consider whether it accurately reflects the meaning of the source text.
- Q12.** I judge whether the translation provided by AI is appropriate for the context.
- Q13.** When the AI translation differs from my own translation, I consider why they are different.
- Q14.** Even when AI provides a seemingly natural translation, I consider whether it is accurate.
- Q15.** Based on the source text, context, and my knowledge of Japanese, I decide whether to accept the AI translation.

(4) Making Translation Decisions

- Q16.** Based on the meaning of the source text, I decide on the most appropriate Japanese expression.

Q17. When my translation differs from the AI translation, I consider both translations before deciding which one to use.

Q18. I decide on the final translation after considering vocabulary, grammar, context, and naturalness.

Q19. When the AI translation does not agree with my judgment, I choose my own translation.

Q20. Before completing the translation, I check whether my final translation accurately reflects the meaning of the source text.

3.4 Data Analysis

The data were analyzed using descriptive statistics. Mean scores were calculated for each of the 20 items and for the four aspects of learners' thinking tendencies in translation.

4. Results and Discussion

4.1 Overview

The mean scores for the four aspects ranged from 3.77 to 3.99, and all were above the midpoint of 3.

Table 1. Mean Scores for the Four Aspects

Aspect	Items	Mean
Understanding the Source Text	5	3.77
Identifying Translation Problems	5	3.93
Evaluating AI Translations	5	3.96
Making Translation Decisions	5	3.99

4.2 Understanding the Source Text

The mean score for “understanding the source text” was **3.77**. Q3, which concerns inferring unfamiliar vocabulary from context, had the highest score at 3.92, followed by Q1 at 3.85 and Q5 at 3.80. Q4, concerning attention to subjects, verbs, and relationships between sentences, had the lowest score at 3.52.

These results suggest that participants were relatively conscious of understanding overall meaning and using context, while their awareness of detailed sentence structure was comparatively lower.

4.3 Identifying Translation Problems

The mean score for “identifying translation problems” was **3.93**. Q6, concerning attention to uncertain parts, had a mean of 4.10, while Q8, concerning different possible translations, had a mean of 4.05. Q10, concerning checking the source text again, had a mean of 4.00. In contrast, Q9, concerning cultural differences, had the lowest score at 3.52.

The results indicate that participants tended to recognize uncertain or difficult parts during translation. However, awareness of cultural differences was relatively lower than awareness of linguistic problems.

4.4 Evaluating AI Translations

The mean score for “evaluating AI translations” was **3.96**. Q12, concerning contextual appropriateness, had the highest score at 4.10, followed by Q15 at 4.03. Q14, concerning the accuracy of seemingly natural AI translations, also showed a relatively high score of 3.90.

These results suggest that participants tended not to accept AI-generated translations without consideration. Instead, they tended to evaluate them based on the source text, context, and their own knowledge of Japanese. However, since the results are based on self-reported data, they do not necessarily represent participants’ actual behavior in translation situations.

4.5 Making Translation Decisions

“Making translation decisions” had the highest mean score among the four aspects, at **3.99**. Q17, concerning the comparison of one’s own translation with the AI translation, had a mean of 4.10. Q18, concerning vocabulary, grammar, context, and naturalness, had a mean of 4.08, while Q20, concerning checking the final translation, had a mean of 4.05.

These results suggest that participants tended to compare their own translations with AI-generated translations and make their final decisions based on several factors rather than simply adopting the AI-generated translation.

4.6 Summary of the Results

Overall, all four aspects had mean scores above the midpoint of 3. The relatively high scores for “evaluating AI translations” and “making translation decisions” indicate that participants tended to use AI as a reference while making their own translation judgments.

At the same time, the relatively lower scores for sentence structure and cultural differences suggest

areas that may require greater attention in translation learning. These findings suggest the importance of helping learners evaluate AI output from linguistic, contextual, and cultural perspectives.

5. Conclusion

This study examined the thinking tendencies of 40 students in the Department of Japanese in Chinese–Japanese translation using generative AI. The analysis focused on four aspects: “understanding the source text,” “identifying translation problems,” “evaluating AI translations,” and “making translation decisions.”

The mean scores for all four aspects were above 3.00. The mean score for “understanding the source text” was 3.77, followed by 3.93 for “identifying translation problems,” 3.96 for “evaluating AI translations,” and 3.99 for “making translation decisions.” These results suggest that the participants tended to understand the source text, identify translation problems, evaluate AI-generated translations, and then make their own final translation decisions.

On the other hand, awareness of sentence structure and cultural differences was relatively low. In particular, participants paid less attention to sentence structure than to the overall meaning of the text, and they also showed relatively low awareness of cultural differences. These findings suggest that in translation learning using generative AI, it is important to develop the ability to judge the accuracy and appropriateness of AI output by considering the sentence structure, context, and cultural background of the source text, rather than simply accepting AI output as it is. In addition, comparing AI-generated translations with their own translations and considering the differences between them may help learners develop their translation judgment.

This study was based on a questionnaire survey of 40 participants, and the awareness reported in the questionnaire may not always correspond completely to their actual translation behavior. Therefore, future research should combine actual translation tasks and interviews to further examine how learners evaluate generative AI and how they make translation-related decisions based on its output.

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