

A Large-Scale Mixed-Methods Study of Japanese University Students' Use of ChatGPT for L2 Learning

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Abstract

This mixed-methods paper reports on the adoption of ChatGPT for L2 learning at university level in Japan. It presents data from an online questionnaire conducted with 2,521 Japanese undergraduate students who studied English ($n = 2,519$) and 17 other L2s ($n = 1,881$). Quantitative data revealed that approximately half had used ChatGPT for language learning, mainly to assist with writing, vocabulary, and grammar. Thematic coding of written usage accounts provided deeper insights into how ChatGPT was used and the range of learning goals it supported. Although many students used it for basic support, such as corrective feedback and translation, some reported more experimental uses. Most written accounts indicated facilitative use of ChatGPT, but some responses pointed to breaches in academic integrity. While not generalisable, the large-scale dataset offers noteworthy insights into the practices of Japanese university students and allows for recommendations that provide a valuable starting point for further exploration in contexts within Japan and abroad.

Keywords: ChatGPT, language education, AI-assisted language learning, Japanese higher education, student use

Background to the Study

Since the release of ChatGPT in November 2023, numerous studies have reported on its potential impact on L2 education, highlighting benefits such

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as personalised learning, and problems such cheating (Alm & Ohashi, 2024; Dizon et al., 2025; Stroud, 2024). As it can both support and undermine learning, it is crucial to understand how it is being used. This short paper presents a large-scale study of Japanese university students' use of ChatGPT for L2 learning, drawing data from a wider study that explores students' usage and perceptions. The research questions are as follows:

- RQ1. What proportion of Japanese university students use ChatGPT for L2 learning? Do more students use it for classwork, homework, or self-study?
- RQ2. How do Japanese university students use ChatGPT for L2 learning?

Methodology

This mixed-methods study employed a convergent parallel design (Creswell & Plano Clark, 2018) through a questionnaire designed by the first author¹ that gathered quantitative and qualitative data. The questionnaire was distributed online in the participants' L1 (Japanese) in July 2024. Participants were gathered through snowball sampling, principally by distributing it to teachers and asking them to share it with students. While this method limits generalisability due to the potential of sampling bias, it is “a recognized and viable method of recruiting study participants not easily accessible or known to the researcher” (Leighton et al., 2021, p. 38) that was employed to gather large-scale data. The questionnaire was administered anonymously to promote candid responses for improved reliability.

All 2,521 participants were Japanese (1,346 female, 1,125 male, 16 non-binary, 34 not provided) undergraduate students who had taken at least one L2 course at university-level in Japan. In this context, English is generally required regardless of the course of study, and additional L2 credits are a part of many degrees. Almost all participants studied English (2,519) and 1,881 studied other languages, with 1,879 participants studying more than one language. Participants per language were as follows: Chinese (637), Korean (468), French (299), Spanish (280), German (261), Italian (29), Russian (18), Portuguese (6), Indonesian (5), Arabic (5), Latin (4), Thai (4), and Greek/Ancient Greek (3), with one each for Ainu, Czech, Hebrew, and Malay. Due to the brevity of this paper, languages other than English are grouped together as “other L2.”

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RQ1 was addressed through descriptive analysis of quantitative data (Creswell & Plano Clark, 2018). RQ2 drew on quantitative data from 12 uses adopted from Alm and Ohashi (2024) that focus on language skills and tasks, as well as qualitative thematic analysis (Saldaña, 2021) of written usage accounts. Each account was coded by the authors to capture use behaviours, then pattern coding was employed to group the codes into broader themes. Discrepancies were resolved through discussion. Coding was iterative, with multiple sessions of independent and joint coding to develop the themes and ensure reliability. Representative quotes were translated into English by the two English-Japanese bilingual authors and carefully reviewed to ensure the original meaning of the text was preserved. All quotes were identified with participant IDs (S1–S2521).

Results and Discussion

RQ1. What proportion of Japanese university students use ChatGPT for L2 learning? Do more students use it for classwork, homework, or self-study?

Half of the participants (50.5%) reported using ChatGPT for learning at least one language. Usage was slightly more common for English learners (43.2%) than other L2 learners (40.4%). Classwork, defined as in-class activities, ranked highest for English (31.4%), followed by homework set by the teacher (27.8%), then self-study (26.6%). For other L2s, all percentages were lower, with homework most common (24.5%), then self-study (23.5%) and classwork (22.9%). The limited level of adoption for language learning can be partially explained by low ChatGPT adoption rates more generally, as 29.6% had never used ChatGPT before. While usage for L2 learning is relatively low, comparison with data collected from 521 Japanese university students nine months prior to this study found approximately 25% had used ChatGPT for English learning (Dizon et al., 2025), making the rise to 43.2% in the present study noteworthy.

RQ2. How do Japanese university students use ChatGPT for L2 learning?

Quantitative data revealed that more English learners than other L2 learners used ChatGPT for every category investigated (Table 1). The highest ranked use was writing support for English (30.4%) and vocabulary support (19.6%) for other L2s. This is possibly related to the Japanese educational context, where there are typically differences in prior learning (English from primary school; other L2s from university) and course requirements (English writing courses; grammar/vocabulary tests for other L2s). Notwithstanding this,

Table 1. ChatGPT use for L2 learning (rank order by language group)

English		Other L2s	
Writing	30.4%	Vocabulary	19.6%
Grammar	26.1%	Grammar	16.5%
Vocabulary	25.6%	Writing	15.7%
Feedback/Assessment	18.7%	Reading	11.9%
Reading	17.7%	Feedback/Assessment	9.7%
Conversation Partner	16.0%	Quiz/Test	8.8%
Quiz/Test	11.9%	Conversation Partner	8.7%
Speaking	11.3%	Study Planner	7.7%
Study Planner	9.4%	Speaking	6.7%
Listening	8.9%	Listening	6.7%
L2 Games	7.1%	Virtual Tutor	5.6%
Virtual Tutor	6.6%	L2 Games	5.5%

writing, grammar, and vocabulary support ranked highest in both groups, while L2 games and virtual tutor ranked lowest.

Qualitative data provided further insights through 3,991 codes marked across 33,258 characters of predominantly Japanese text² collected from the written accounts. Approximately 60% (1,539) were from non-users or too vague (e.g., S2187: “For homework”) so excluded from further analysis, with all others thematically coded, and multi-coded when multiple themes appeared within a single account. Over 20 themes emerged, including subthemes, with the most common ones reported in Table 2.

Table 2 highlights the leading role ChatGPT played in individualised feedback, particularly for checking written work (S246, S2078) and providing translations (S1399, S1436). It also provides a more nuanced understanding of usage patterns; i.e., the findings demonstrate different levels of engagement with ChatGPT, from basic use that simply replaced dictionaries, translators, and grammar checkers (Feedback S246, Vocabulary S421, Grammar S2153) to more experimental use for creating personalised study tools and learning experiences (Feedback S2078, Vocabulary S1064, Grammar S2460).

Questions over academic integrity were raised in approximately 2% of the accounts, either through obvious cheating (S639: “When I had to write an essay in English for class, I had ChatGPT write the entire text.”) or suspected misuse (S834: “I used it to speed through my homework.”). However, it is

² Approximately 13,300–16,600 words based on character-to-word ratios of 2 to 2.5 characters per word.

Table 2. Most common themes from students' written accounts of ChatGPT use for L2 learning

Theme (Freq.)	Representative quotes (English Translations)
Feedback on own work (294)	S246: "I had ChatGPT correct sentences that I wrote." S2078: "I asked ChatGPT for corrections on English sentences I wrote, with explanations of the changes and the meanings of some vocabulary."
Translation (219)	S1399: "I used ChatGPT to translate English text into Japanese." S1436: "I used ChatGPT to confirm whether what I was trying to say was correct by asking it to translate from Japanese to English and vice versa."
Vocabulary (199)	Subtheme 1: Look up vocabulary (113) S421: "I have used ChatGPT to look up words I don't know." S842: "Especially for English, I used ChatGPT to find synonyms and antonyms to help build my vocabulary." Subtheme 2: Other vocabulary support (73) S928: "I used ChatGPT to generate example sentences for unfamiliar words." S1064: "I asked ChatGPT to make quizzes to help me memorise unfamiliar words from a video I liked." Subtheme 3: Unspecified vocabulary (13) S2360: "Vocabulary study (Chinese)."
Grammar (186)	Subtheme 1: Grammar correction (105) S2153: "I used ChatGPT to check for grammatical errors when completing English writing assignments." S2460: "I practiced Spanish grammar by chatting with ChatGPT and had it point out and correct my mistakes during the conversation." Subtheme 2: Other grammar support (43) S297: "I asked ChatGPT about grammar when trying to understand difficult English sentences." S147: "I asked ChatGPT to explain parts of German grammar I didn't understand. For English, I used ChatGPT to make grammar quizzes while studying on my own, which helped me understand better." Subtheme 3: Unspecified grammar (38) S1366: "English grammar."
Conversation practice (97)	S181: "I used voice mode and had ChatGPT act as a speaking partner to practice English." S8: "I chatted with ChatGPT in Korean because I wanted to improve my communication skills."
Paraphrase or summarise (72)	S108: "I used ChatGPT to look up ways to rephrase my English journal entries." S2014: "When I wanted to get the gist of long English text, I used ChatGPT to summarise it."

Note. Freq. = Frequency of occurrence.

crucial to note that task context was not always explicit, so 2% is likely to be an underestimate. These findings provide some reassurance that the majority of participants reported adhering to ethical standards. Nevertheless, concerns remain over academic integrity and how to guide students towards fair and optimal use.

Conclusion

The convergent parallel study design brought together quantitative and quantitative data, providing multifaceted insights into students' use of ChatGPT for language learning. Overall, the findings showed adoption by only half of the participants, with use for basic functions such as grammar correction, vocabulary checking, and translation more common than engagement for deeper learning. Drawing on these findings, continuous open dialogue between educators and students is recommended: first to better understand the extent of students' knowledge and usage of ChatGPT; second, to raise awareness of how to use ChatGPT for personalised learning support at both basic and experimental levels; and third, to guide students away from academic misconduct. In practical terms, this would involve teachers setting aside course time for discussions and guided exploration of ChatGPT. While not generalisable, the findings offer valuable insights into the Japanese context, and the recommendations could be a starting point for further explorations in educational contexts in Japan and abroad.

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