ChatGPT and language learning: University educators' initial response

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Abstract

This article examines the initial response of university-level language educators to ChatGPT, an AI chatbot, within the first ten weeks of its release. ChatGPT, which stands for 'Chat Generative Pre-trained Transformer', is a conversational AI language model developed by OpenAI, a private artificial intelligence research organisation. A global survey collected data from 367 teachers of 16 languages. The results show strong awareness of ChatGPT among educators, but wide variation in experience and knowledge highlights the need for training and support. While use of ChatGPT was limited, particularly for pedagogical tasks, the majority of educators expressed interest in integrating it into their future teaching practice. In more concrete terms, more teachers indicated they were likely to use it to create language learning resources and recommend it for self-study than use it for managing assessment. In regards to the potential impact of ChatGPT on the field of education, educators showed a mixture of concern and optimism. While many agreed that it would increase the accessibility of language teaching and have a positive impact on self-study, even more had concerns about the potential for cheating and over-reliance, highlighting the importance of ethical guidelines. This research contributes to the understanding of the opportunities and challenges associated with ChatGPT in language education.

Keywords: ChatGPT, artificial intelligence, language education

1. Introduction

ChatGPT, a conversational AI language model with wide-ranging capabilities, has taken the world by storm since its release on November 30, 2022. Chatbot technology is not new but its speed of adoption certainly is, with Reuters reporting an estimated 100 million monthly active users within two months of release, "making it the fastest-growing consumer application in history" (Hu, 2023, February 3). High adoption rates at a societal level meant that educators needed to respond soon after its release, and within seven weeks a *New York Times* headline had already proclaimed "universities start revamping how they teach" (Huang, 2023, January 17). However, the extent to which this was happening and how educators felt about it was unclear. To investigate the initial response to ChatGPT within language education, the researchers opened a survey to foreign language educators at universities worldwide. Three research questions guided the study:

RQ1. To what extent had language educators heard about and used ChatGPT within ten weeks of its release?

RQ2. What were language educators' views on adopting ChatGPT for educational purposes within ten weeks of its release?

RQ3. What were language educators' perceptions of the potential impact of ChatGPT on language education within ten weeks of its release?

2. Method

2.1. Instrument

To address the research questions, the authors created a survey based on their own beliefs about possible areas of importance and output from ChatGPT about its possible roles in language education. Their approach included prompting ChatGPT for output on relevant issues, discussing the output, creating Likert scale items with points deemed relevant, prompting for more information, and refining the items after further discussion. The survey collected background information about participants and data on three key areas: 1) teachers' knowledge about and use of ChatGPT; 2) current and likely use of ChatGPT to create language learning resources, manage assessment, and advise students for self-study; and 3) views on ChatGPT's impact on language education. The survey combined open and closed questions with Likert scale items most commonly employed. Before its distribution, the survey was piloted by four colleagues of the researchers, with modifications made to improve readability.

2.2. Context and participants

The survey was distributed via email, Facebook, and Twitter, with encouragement from the researchers for others to share it widely. Snowball sampling was used to reach far beyond the researchers' personal networks, a method promoted by Leighton et al. (2021). The survey was open for less than two weeks and closed exactly ten weeks after ChatGPT's release to capture an initial response to its impact. Valid responses were received from 367 anonymous participants (51.5% female, 44.7% male, 0.5% non-binary, 3.3% undisclosed) who taught 16 languages[1] at universities around the world (48 countries/regions[2]).

2.3. Data analysis

Descriptive statistics were calculated for quantitative items. Qualitative data underwent thematic analysis. Key quantitative findings are reported in the results section. Due to space limitations, detailed statistical analyses and qualitative themes are not presented here but will be disseminated through future publications and conference presentations.

3. Results and Discussion

3.1 ChatGPT knowledge and experience (RQ1)

Within ten weeks of ChatGPT's release, 22.3% of respondents already claimed to have extensive knowledge of it ("I have heard the name and know a lot about it"), and 62.7% had heard of it and had some understanding. In contrast, only 15% had very limited or no knowledge (7.9% had heard of it but knew nothing about it, 7.1% hadn't heard of it). This distribution shows strong awareness of ChatGPT among language educators. Usage was almost evenly split (50.1% had used it, 49.9% hadn't). This suggests that although most language teachers were aware of ChatGPT, only half had taken the next step to usage.

The overall mean score for familiarity with ChatGPT was 4.31 on a scale of 0 to 10, indicating a relatively low level of familiarity. However, 27% chose 7 or higher, suggesting that while the average familiarity may be low, a substantial subset of respondents were more familiar with ChatGPT.

To gain insight into educators' perceptions of their ability to use ChatGPT for educational purposes, they were asked how well they felt they could carry out specific tasks based on their current level of familiarity with the tool. The results (Table 1) showed that few had high confidence in their ability to create language learning

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[1] Languages participants taught (alphabetical order): Ancient Greek, Chinese, English, French, German, Italian, Japanese, Latin, Madurese, Norwegian, Portuguese, Russian, Spanish, Swedish, Thai, and Welsh.

[2] The country list built into Qualtrics listed some countries together as regions (such as the UK). This was noticed during analysis.

resources (36.8% extremely/very well), guide students towards self-study (28.6% extremely/very well), or create automated assessment tasks (20.1% extremely/very well), and 23.7%-38.2% noted they would not be able to do these tasks well at all.

Table 1. Language educators' beliefs about their ability to do teaching-related tasks with ChatGPT

	Extremely well (5)	Very well (4)	Moderately well (3)	Slightly well (2)	Not at all well (1)	*M*	*SD*
Create language learning resources	13.6%	23.2%	24.0%	15.5%	23.7%	2.87	1.37
Create automated assessment tasks	8.7%	11.4%	24.0%	17.7%	38.2%	2.35	1.32
Guide students on self-study tasks	10.1%	18.5%	27.3%	19.3%	24.8%	2.70	1.30

A significant majority of language educators had not incorporated ChatGPT into their teaching practice, at least not in the ways the researchers targeted. Specifically, only 20.2% had used it to create language learning resources, 6.5% had used it for assessment purposes, and 13.1% had advised students to use it for self-study.

In summary, the results indicate that within the first ten weeks of its release, there was widespread awareness of ChatGPT among language teachers, but limited use.

3.2. Views on potential use of ChatGPT in language education contexts (RQ2)

Although adoption of ChatGPT was uncommon, a significant proportion of teachers expressed interest in integrating it into their teaching, reflecting its potential value in language education. Specifically, 40.9% were very interested, 27.5% were interested, and 26.4% were unsure. Only a small minority showed disinterest (3.3% not interested, 1.9% not interested at all). The mean and median scores were both 4 (SD = 0.989) on a scale of 1 to 5, indicating strong overall interest in using ChatGPT in future classroom activities.

The survey noted, "ChatGPT claims it can be used to create the following language learning resources. How likely are you to use it for [various tasks]?" (Table 2). More than half of the participants responded positively (extremely/somewhat likely) about potential use for creating language learning resources, particularly for improving reading (66.7%) and writing (62.6%) skills. With extra time to explore its potential, interest may have turned into action for more teachers, as reported in a recent study in Vietnam (Nguyen, 2023) that found English teachers made extensive use of ChatGPT for lesson planning and material creation.

Table 2. Language educators' likelihood to use ChatGPT to create learning resources

	Extremely likely (5)	Somewhat likely (4)	Neither (3)	Somewhat unlikely (2)	Extremely unlikely (1)	*M*	*SD*
Vocabulary: Generate flashcards with vocabulary words and their definitions, translations or synonyms.	16.9%	36.0%	18.8%	14.4%	13.9%	3.28	1.29
Grammar: Generate worksheets with grammar rules, examples, and exercises.	16.6%	37.1%	19.3%	13.4%	13.6%	3.30	1.28
Writing: Generate templates for different types of writing, such as an essay, a letter, or a report.	26.4%	36.2%	18.3%	12.3%	6.8%	3.63	1.19

Reading: Generate reading passages or texts on different topics and levels of difficulty.	27.5%	39.2%	16.1%	9.0%	8.2%	3.69	1.12
Conversation: Generate scripts for role-playing activities.	20.7%	34.3%	17.2%	13.4%	14.4%	3.34	1.33
Quizzes and tests: Generate quizzes and tests on different language skills, such as vocabulary, grammar, reading comprehension, and listening.	19.1%	34.6%	21.3%	11.1%	13.9%	3.34	1.29
Games: Generate language learning games such as crossword puzzles, word searches, and hangman games.	20.4%	33.2%	20.2%	10.9%	15.3%	3.33	1.33

In terms of assessment, teachers were more likely to envisage using ChatGPT for automated scoring of multiple-choice tests (49.8%) and automated feedback on writing tasks (42.5%) than automated scoring of writing tasks (34.3%). When advising on self-study tasks, they were most likely to encourage students to use ChatGPT as a virtual conversation partner (59.7%) and a virtual tutor (56.9%). In addition, they viewed ChatGPT as a potential tool for creating engaging learning environments, with 56.1% likely to advise students to use ChatGPT to generate interactive language learning games.

These data suggest a marked contrast between the perceived potential of ChatGPT and its actual use in classroom practice during the first ten weeks after its release. While the majority of respondents recognised the benefits of ChatGPT for resource creation, assessment, and self-study, a significantly smaller percentage had implemented it in these areas. This trend suggests a gap that could be filled with further research, training, and guidance on how to use ChatGPT effectively in language teaching contexts.

3.3. Perceptions of the potential impact of ChatGPT on language education (RQ3)

Respondents showed a mixture of optimism and concern when assessing the potential impact of ChatGPT on language teaching, as shown in Table 3. In terms of positive sentiments, 58% of respondents believed that ChatGPT would lead to an improvement in the accessibility of language teaching and 55.1% expected it to have a positive impact on self-directed learning. Furthermore, 53.7% believed that ChatGPT could lead to more personalised language learning.

However, these positive sentiments were accompanied by notable concerns. Specifically, 70.8% of respondents agreed that the introduction of ChatGPT could lead to an increase in cheating and academic dishonesty. In addition, 62.2% were concerned that students would become overly reliant on ChatGPT, thereby inhibiting the development of their language and critical thinking skills.

There were more measured responses to other potential impacts. For example, only 37.1% of respondents believed that ChatGPT would lead to more efficient and effective language assessment. Meanwhile, almost half (48.5%) agreed that the introduction of ChatGPT could reduce reliance on human teachers for certain aspects of language teaching and possibly reduce the cultural and human aspects of language education.

Table 3. Educators' level of agreement on the potential impact of ChatGPT on language education

	Strongly agree (5)	Somewhat agree (4)	Neither (3)	Somewhat disagree (2)	Strongly disagree (1)	*M*	*SD*
More efficient and effective language assessment	10.9%	26.2%	41.7%	13.6%	7.6%	3.19	1.05
More personalized language learning	17.2%	36.5%	30.2%	9.3%	6.8%	3.48	1.09
More self-directed language learning	15.3%	39.8%	32.1%	7.9%	4.9%	3.53	1.00
Reduced dependence on human teachers for certain aspects of language instruction	13.9%	34.6%	28.6%	16.1%	6.8%	3.33	1.11
An increase in cheating and academic dishonesty	35.4%	35.4%	22.9%	4.4%	1.9%	3.98	0.97
A decrease in the cultural and human aspects of language education	14.7%	33.8%	29.4%	16.9%	5.2%	3.36	1.09
Students will become too reliant and not develop their own language skills and critical thinking abilities	24.3%	37.9%	24.5%	10.4%	3.0%	3.7	1.04
An improvement in the accessibility of language education	17.7%	40.3%	30.5%	6.8%	4.6%	3.6	1.00

Looking more broadly, 52.6% of respondents saw the potential for ChatGPT's overall impact on the field of language education to be positive (12% very positive, 40.6% somewhat positive). Educators mainly envisaged benefits in terms of accessibility, self-directed learning, and personalisation, echoing recent findings on positive teacher and student attitudes towards ChatGPT's potential for independent learning (Ali et al., 2023). However, participants in the present study also expressed concerns about an increased potential for academic dishonesty and over-reliance, as well as a potential reduction in the human-centred aspects of language teaching, signalling areas that educators need to proactively address.

4. Conclusions

This study provides insights into language educators' experiences and perceptions of the role and potential of ChatGPT in language education, collected within ten weeks of its release. The results show an overall high level of awareness of ChatGPT and considerable interest in using it for educational purposes. However, usage in classroom practice was less widespread, suggesting a contrast between its perceived potential and actual use. Perceptions of its impact on language education showed educators identified both opportunities and challenges, which suggests there will be much need for guidance in navigating paths towards pedagogical use and overcoming potential problems. While ChatGPT is seen as a means to improve the accessibility of language teaching and encourage self-directed learning, it also raises concerns about academic dishonesty, over-reliance on technology and a potential reduction in the human and cultural elements of language education.

The authors are currently carrying out a more detailed analysis of the quantitative and qualitative data from the survey. This will allow a deeper exploration of the complex and nuanced experiences, perspectives, and challenges language teachers face when incorporating ChatGPT into their practice. It is anticipated that this will

provide additional insights into the implications and potential applications of ChatGPT in language teaching, further enriching the knowledge and discourse surrounding the use of AI in education.

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