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A Worldwide Study on Language Educators' Initial Response to ChatGPT

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Abstract

This exploratory study investigated how 367 university language educators from 48 countries/regions responded to ChatGPT in the first 10 weeks after its release. It explored awareness, use, attitudes, and perceived impact through a survey collecting both quantitative and qualitative data. Most participants demonstrated moderate awareness, but little teaching application. Around half had used ChatGPT in some way, but only a minority had used it for educational purposes. Interest was high but many concerns were raised, particularly about student misuse. Most teachers felt they were likely to use it for creating teaching resources but were less open to using it for automated feedback and assessment. Perceptions of the impact of ChatGPT were cautiously optimistic, with more positivity from users with first-hand experience. Concerns focused on misuse, while benefits were noted in terms of efficiency. Qualitative data were analysed using an adapted version of the Concerns-Based Adoption Model (CBAM), which revealed that teachers were primarily in the *Management* and *Consequences* stages of concern. Only very few had reached the latter stage of *Collaboration* and none were in the *Refocusing* stage, suggesting a gradual adoption process, which was expected given the timing of the study. Key implications are that educators need support in developing skills for pedagogical applications of ChatGPT, while critically evaluating appropriate use. More empirical evidence on effective practices is needed. This study provides baseline data on language teachers' initial engagement with ChatGPT, highlighting promising directions but also remaining concerns. Further research can track how responses evolve.

Keywords: ChatGPT, technology adoption, CBAM, teacher perspectives

Data Availability Statement: *All relevant data are within this paper.*

Introduction

There have been significant advances in artificial intelligence (AI) in recent years, with the emergence of powerful large language models (LLMs) that can generate human-like text. LLMs are based on neural networks and are designed to generate text, but the fundamental techniques of these models have been adapted to other domains, including image and music generation. One of the foundational LLMs was GPT (Generative Pretrained Transformer), developed by OpenAI in 2018. However, it was the subsequent release and rapid adoption of GPT-3.5 and its conversational variant, ChatGPT, in late 2022 that truly brought LLMs into the mainstream. Within just two months of its public launch, ChatGPT had attracted over 100 million users worldwide (Hu, 2023; Sabzalieva & Valentini, 2023). ChatGPT is a chatbot powered by GPT-3.5 that demonstrates impressive natural language processing capabilities in responding to user prompts. This article focuses specifically on educators' initial responses to the capabilities and adoption of ChatGPT in its release version during the first critical months after its release.

The emergence of ChatGPT has sparked intense debate about its implications in the field of education. For language educators, it raises critical questions, as its advanced natural language processing capabilities offer the potential for it to assist with key teaching tasks such as generating teaching materials, assessing student work and advising on language learning. In the weeks after its release, reactions to ChatGPT among language teachers through social media ranged from excitement about its possibilities to concern about the risks of misuse by students. In addition, conceptual papers were starting to appear. However, the authors could not find studies into how language educators were initially making sense of and responding to the emergence of this innovation, so they decided to investigate through empirical research. This study addresses the identified knowledge gap by documenting the initial reactions and experiences of language teachers to ChatGPT in the first ten weeks after its release. An online survey was used to collect data from 367 language educators in 48 countries/regions on their familiarity with ChatGPT, usage, attitudes towards adoption, and perspectives on its impact on language education. These areas were explored through closed-ended and open-ended questions.

Understanding how language teachers engage with this rapidly emerging technology provides important insights into teacher adoption processes, implementation challenges, and considerations for the integration of new AI tools such as ChatGPT. The study provides insights into how ChatGPT is interpreted and negotiated by educators in the context of their teaching environments and the findings could play a role in informing policy and practice around AI in language learning.

Literature Review

Empirical research takes time to prepare and publish, but media reports appeared very shortly after ChatGPT's release, with many fuelling fears over misuse through headlines like "ChatGPT Banned in New York City Public Schools Over Concerns About Cheating, Learning Development" (Lukpat, 2023, January 6) and "ChatGPT Cheating: What to Do When It Happens" (Klein, 2023, February 21). While there were advocates, many initial reports focused on how ChatGPT could be used in detrimental ways and urged educators to be ready to combat cheating. However, with the rapid pace of change, preparing all key stakeholders, including teachers, students and decision-makers in educational institutions, proved to be challenging. Perkins (2023) has argued that institutions need academic integrity policies in place to determine if students' actions fall into the realm of academic misconduct or not, and that such policies need to be updated to take into account the use of such tools in the future. To create such policies, however, institutions themselves need guidance.

Research focusing directly on ChatGPT and language education is just beginning to emerge, given its recent development, but studies have already begun exploring its applications in other educational

contexts (for example, for science education see Cooper, 2023; for elementary school education see Kerneža, 2023). Implications specifically for language learning are outlined in Kohnke et al. (2023) who address key affordances of chatbots, such as providing conversational practice, language input, personalised vocabulary notes and comprehension questions. However, they also noted the risks of inaccurate responses and cultural bias. Hockly (2023) provided an overview of AI techniques used in English language teaching, and the benefits for language development and wellbeing, but also noted ethical concerns around privacy and bias. Hong (2023) discussed ChatGPT as a potential disruptor that could force change in teaching methods, while also outlining benefits such as personalised tutoring and authentic dialogue, and challenges such as biased content.

Research on machine translation is a related area of AI that has been studied more extensively, so it is worth considering when formulating a response to ChatGPT. Empirical research has identified benefits such as improved vocabulary knowledge, drafting skills and metalinguistic awareness (Klimova et al., 2023). However, risks such as accepting incorrect output as correct have also been documented (Loock et al., 2022) and many educators fear misuse (Ohashi, 2022). Despite this, some studies have shown students tend to use machine translation tools, such as Google Translate, constructively in writing rather than avoiding writing itself (Alm & Watanabe, 2022). The emergence of ChatGPT and other advanced generative AI tools has amplified concerns and introduced new ones about plagiarism, originality and depth in student writing (Alshater, 2022; Haque et al., 2022; Roe & Perkins, 2022). For example, a recent study has uncovered problems with plagiarism in ChatGPT writing activities (Yan, 2023), echoing concerns raised in response to machine translation tools. Many language teachers in a Japan-based study by Ohashi (2022) agreed that machine translation could be used for language skill development, but also voiced concerns over its misuse. Few of Ohashi's participants felt they had the required knowledge to help students use machine translation effectively and the vast majority wanted to extend their knowledge. Increasing opportunities for effective use is essential and research suggests that with guidance, students can learn to use technology critically rather than as a substitute for their own efforts. Tseng and Warschauer (2023), for example, suggested teaching strategies to facilitate effective and ethical use of AI writing tools.

While these studies have explored the potential of AI, as well as risks such as biased content and plagiarism (also referred to as "AIgiarism"), little research has focused specifically on teacher adoption of ChatGPT. This study aims to address that gap by eliciting initial responses from university-level language educators around the world within the first ten weeks of ChatGPT's release. This is partly done by drawing on the Concerns-Based Adoption Model (CBAM) (Straub, 2009). The CBAM has been used in many studies to understand teacher adoption processes for both hardware technologies such as laptops and software tools such as virtual learning systems (Straub, 2009). As a novel innovation, we expect ChatGPT to profoundly impact language teachers. Therefore, the CBAM, with its basis in theory and prior research on technology adoption in educational contexts, offers a constructive framework for us to examine this issue.

Methods

ChatGPT's rapid global diffusion meant that teachers needed to respond to it much more quickly than is usually necessary when new technologies are made available. This study aimed to address initial reactions of language teachers in the first ten weeks after ChatGPT's release, in order to provide insights into AI adoption processes, implementation challenges and integration considerations. The following research questions guided the study:

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

2. What were language educators' views on adopting ChatGPT for educational purposes within ten weeks of its release?
3. What were language educators' perceptions of the potential impact of ChatGPT on language education within ten weeks of its release?

Participants

This study was conducted with 367 language educators who were teaching in universities around the world. Participants were recruited using snowball sampling through social media and professional networks. Snowball sampling involves participants recruiting more participants. In this study, it was applied by disseminating the survey through email, Facebook, and Twitter, and encouraging others to share it extensively. Snowball sampling has been described by Leighton et al. (2021) as "a recognized and viable method of recruiting study participants not easily accessible or known to the researcher" (p. 38). The study aimed to capture a diversity of language teachers at different levels of adoption of ChatGPT soon after its release, so the net was cast wide, and no data quotas were set. The researchers are based in Japan and New Zealand, so it is unsurprising that their greatest reach was in these two countries. With 143 participants in Japan and a further 15 in New Zealand, almost half (43%) of the respondents worked in the researchers' local teaching contexts. However, the survey reached far beyond these countries, as shown in Table 1, which provides an overview of the countries/regions that respondents taught in. Due to large discrepancies in representation, no geographical comparisons will be made in this study.

In terms of gender, 189 (51%) of participants identified as female, 164 (45%) as male, 2 (1%) as non-binary and 12 (3%) preferred not to say. Participants taught 16 different languages, namely: English (n = 277), German (n = 35), Spanish (n = 24), Japanese (n = 18), French (n = 12), Italian (n = 6), Chinese (n = 4), Russian (n = 3), Thai, Portuguese, Latin, Ancient Greek (n = 2 each), Madurese, Norwegian, Welsh and Swedish (n = 1 each), with 23 (6%) teaching more than one language. Despite some language diversity, the vast majority (75%) taught English.

Table 1 *Countries/regions participants taught in*

Region	Participants	Countries/Sub-regions
Western Pacific Region	216	Japan (143), Korea (28), Australian and New Zealand (15 each), Malaysia (10), China (3) Vietnam (2)
European Region	75	United Kingdom/Northern Ireland (21), France (9), Spain (8), Austria (5), Finland, Germany, Italy and Turkey (4 each) Czech Republic and Ireland (3 each), Poland (2), Albania, Andorra, Latvia, the Netherlands, Macedonia, Norway, Russia and Switzerland (1 each)
Region of the Americas	36	United States (20), Brazil (4), Ecuador (3), Argentina, Canada and Chile (2 each), Antigua/Barbuda, Mexico and Nicaragua (1 each)
South-East Asian Region	27	India (21) Thailand (3), Indonesia (2), Nepal (1)
Eastern Mediterranean Region	11	Kuwait (4), United Arab Emirates and Tunisia (2 each), Afghanistan, Morocco and Saudi Arabia (1 each)
African Region	2	Angola and Ghana (1 each)

Note: Regions are based on the World Health Organization's regional categories (a full list is available at https://www.who.int/countries).

Instrument

A survey (Appendix) was designed to collect both quantitative and qualitative data related to the three research questions. The survey was created several weeks after ChatGPT's release, when little was known about its capabilities. To create the survey, the researchers first brainstormed ChatGPT's possible uses for language teaching and learning and considered its impact on language education. After that, they prompted ChatGPT for more information about these areas then entered a cycle of discussing the output, prompting further about relevant issues they identified and critically examining the output until they were able to settle upon salient points to include. Prompting was new to the researchers—and the world at large—at the time, so it was done through trial and error by typing in questions/commands and refining them. Many points were converted into Likert scale items, with refinements made through a combination of further prompting and discussion, and other items were posed as open-ended questions. In addition to collecting basic demographic data, the survey focused on teachers' familiarity with ChatGPT, their current and likely use of it for language education purposes and their views on this, as well as their perceptions of the impact of ChatGPT on language education. Likert scale items made up the majority of the survey, with open-ended questions employed to gather more detail in the participants' own words. Prior to distribution, four colleagues of the researchers piloted the survey, and modifications were made to increase readability.

Analysis of Closed-Ended Responses

Quantitative Likert-scale survey data were analysed using descriptive statistics in SPSS. Frequencies, means and standard deviations were examined for questions on awareness, use, attitudes and perceived impact of ChatGPT. Further statistical tests (e.g., t-tests and ANOVA) compared survey responses between sub-groups of teachers.

Analysis of Open-Ended Responses

Open-ended data were collected through three questions. Q2.7 explored how respondents had used ChatGPT to create language learning resources, assess students' work and recommend self-study. Q2.8 elicited perceived benefits and concerns about using it for those purposes. Q3.2 explored the impact teachers thought it would have on language education. The researchers used thematic coding in the following stages: independent open coding, establishment of common themes, refinement through negotiation, coding with negotiated codes, cross-checking, further refinement and individual coding, and finally, discussion of any items that were not coded the same. This method was adopted through negotiation between the researchers, who wanted to explore the data individually to capture the broadest level of interpretation then categorise and quantify the data so that the large volume of open responses collected could be disseminated. Coding procedures drew upon Braun and Clarke's (2006) guidelines for thematic analysis. Initial inter-rater reliability of at least 85% was achieved for all questions, raising higher when including partial agreement for multiple-coded comments. Resolution of all discrepancies was achieved through negotiation. Key themes are presented in the findings through representative quotations.

For Q2.7, secondary coding was conducted to understand different stages teachers had reached in using ChatGPT for teaching purposes. This was done through thematic coding, with initial labels focusing on types of use (or non-use). A pattern towards teaching-centred use began to emerge, resulting in responses being coded as Non-user, Exploration and Application, with the last category sub-divided into four categories: creating resources, assessment or feedback, encouraging self-study, and other. All coded data were counted, allowing for quantification of the open responses so that patterns could be better understood. The quantification of this data and representative quotations provided in the results section allow for a more nuanced understanding of teachers' usage.

Q3.2 was also subjected to secondary coding, drawing on the Concerns-Based Adoption Model (CBAM) framework (Straub, 2009). Thematic coding revealed a wide spectrum of concerns, so the CBAM framework was tested for suitability as it provides a lens for coding concerns expressed about adoption of new innovations (Straub, 2009). The CBAM identifies seven stages of concern, namely: awareness, informational, personal, management, consequence, collaboration and refocusing. Application to this study's data revealed the CBAM was useful but needed to be adapted to fit the context. This was necessary because some data could not be adequately described using the existing categories and not all categories had data, likely due to the short period between ChatGPT's release and survey completion. Also, it was felt that some changes to category descriptions were needed to more transparently represent the way data were coded in this study. Table 2 provides a comparison of the original CBAM and the version used in this study, which was created through the same process used for thematic coding of data from Q2.7.

Key difficulties the researchers faced in applying the CBAM related to cheating and issues beyond the immediate teaching context. For example, if respondents mentioned cheating (a key theme), should

Table 2 *CBAM (Concerns-Based Adoption Model) frameworks*

Level	Original CBAM (Straub, 2009, p. 635)	Adapted CBAM
0	**Awareness**	**Unaware or Unconcerned**
	Teachers have little awareness or concern for a particular innovation. The innovation is seen not to affect them at this stage.	Teachers have little or no awareness or concern for ChatGPT or don't put forth an opinion. It is seen not to affect them at this stage.
1	**Informational**	**Awareness of Impact**
	Teachers have general or vague awareness of an innovation. Teachers may begin some information seeking to gain additional knowledge about the innovation.	Teachers anticipate ChatGPT has/will have an impact, but only comment on the magnitude of the impact or describe it in vague terms.
2	**Personal**	
	Teachers' concerns are about the personal costs of implementing an innovation—how a particular innovation will change the demands of or conflict with existing understanding of what they currently do.	Teachers' concerns are about the personal impact of ChatGPT, such as job/income loss and the need for training/new skills.
3	**Management**	
	Teachers' concerns will focus around how to integrate the logistics of a particular innovation into their daily jobs.	Teachers' concerns focus on job-based integration of ChatGPT, such as how it can be used and misused.
4	**Consequence**	
	Teachers' concerns are primarily on the impact of the innovation on their students.	Teachers' concerns are about the impact of ChatGPT on their students and language education more generally.
5	**Collaboration**	
	Teachers begin to have concerns about how they compare to their peers and how they can work with their fellow teachers on an innovation.	Teachers begin to have concerns about the need to work with others in order for ChatGPT to be successfully integrated.
6	**Refocusing**	
	Teachers' concerns are how to better implement an innovation.	Not applicable to this study due to a lack of data that fit this stage.

this be a *Management* issue (as it changes teaching practices) or a *Consequence* (as it has an impact on students)? Some comments did not clarify this, so after much negotiation, comments that mentioned cheating were coded in both categories to reflect the impact it can have on both groups. In addition, due to concerns over far-reaching effects of ChatGPT, the category *Consequence* was expanded to look beyond students, encompassing the field of language education more generally.

Mixed Methods Integration

A convergent mixed methods design was used to integrate the quantitative and qualitative findings (Creswell & Creswell, 2018). The quantitative survey analysis highlighted overall trends in awareness, attitudes, usage, and perceptions of ChatGPT among language teachers. Thematic and CBAM-based coding provided a deeper insight into teachers' concerns. Bringing these complementary data sources together provided a more comprehensive understanding of teachers' views, adoption processes, and needs in relation to ChatGPT.

Quantitative statistics were merged with the qualitative themes and CBAM stages to construct profiles categorising teachers' levels of adoption. Comparing survey response patterns with expressed concerns revealed relationships between teacher familiarity, attitudes and stages of concern. Integrating the quantitative and qualitative data extended the statistical findings by providing accounts of the actual experiences and perspectives shared by teachers through their open-ended responses.

Results and Discussion

1. To What Extent had Language Educators Heard About and Used ChatGPT Within Ten Weeks of its Release?

Familiarity and usage

Awareness of ChatGPT was high among respondents, with over 90% saying they had heard of it. However, the depth of understanding varied considerably (Table 3).

Based on a 0-10 scale of self-reported familiarity, 8.2% were completely unfamiliar (0), 43.2% were relatively unfamiliar (1–4), 34.9% had some familiarity (5–7), and 13.9% were very familiar (8–10). In terms of usage, respondents were almost evenly split during this initial 10-week period. About half (49.9%) reported having used ChatGPT in some way, while the other half (50.1%) had no direct experience. This suggests relatively limited adoption for general purposes in the first few months after public release. As later results will show, adoption specifically for educational purposes was even more limited during this initial period.

To gauge educators' confidence in their ability to use ChatGPT for educational purposes, they were asked about teaching-related tasks. Few felt highly confident that they could create language learning

Table 3 *Frequency distribution for awareness of ChatGPT*

Description	N	Percentage
I haven't heard of it	26	7.1%
I have heard the name but know nothing about it	29	7.9%
I have heard the name and know a bit about it	230	62.7%
I have heard the name and know a lot about it	82	22.3%

resources (extremely well/very well = 37%), guide students towards self-study (extremely well/very well = 29%) or create automated assessment tasks (extremely well/very well = 20%). A noteworthy proportion felt they would face great difficulty, with "not well at all" chosen by 38% of teachers for creating automated assessment tasks, and 24% choosing this option for both creating language learning resources and guiding students on self-study. The Technology Acceptance Model (TAM) (Davis et al., 1989) proposes that "ease of use" increases the likelihood that a technology will be accepted by users, so it may be useful to investigate this further in future studies. At the time of this study, most participants did not see ChatGPT as a tool they could use well for educational tasks, which could potentially deter use for these purposes if training is not provided.

An unexpected finding was a moderate negative correlation ($r = –.584$, $p < .001$) between familiarity and previous use. Those who had used ChatGPT rated their own understanding lower, while non-users rated their familiarity higher. This contrasts with typical technology adoption patterns. However, overall familiarity was positively correlated with perceived ability for teaching-related tasks such as creating materials, although these relationships were moderate ($r = .489$ to $.581$). One possible explanation is that some non-users may have overestimated their knowledge in the face of widespread media coverage, while hands-on users may have realised that they understood less than expected.

In summary, most participants had heard of ChatGPT within 10 weeks of its public release. However, the depth of their understanding varied considerably.

Usage for teaching purposes

While overall awareness of ChatGPT was relatively high, adoption specifically for educational purposes was limited. Quantitative survey responses indicated that only 20% of teachers had used ChatGPT to create learning resources, with even lower percentages reported for using it for assessment (7%) and advising students on self-study (13%). Analysis of the open-ended responses revealed similarly low rates of use for teaching, providing additional contextual insights. As shown in Table 4, which summarises the categories teachers fell into based on their open-ended responses, the majority (75%) reported that they had not used ChatGPT for teaching purposes. Coding classified 9% as having used it to create resources, while only 4% had used it for assessment/feedback and to encourage self-study. Lower figures in the qualitative data are likely due to respondents providing brief responses or skipping open response items. Despite these data gaps, it was valuable to further explore usage through qualitative data as representative quotes for each category (Non-user, Exploration and Application) provide a more nuanced understanding of ChatGPT usage than the quantitative data alone can provide.

Table 4 *Teachers' level of ChatGPT use for teaching purposes*

Level of Use	Description	Respondents	
0. Non-user	No experience using ChatGPT at all or for educational purposes	277 (75%) Inc. no reply: 292/80%	
1. Exploration	Had begun using ChatGPT to test its capabilities, for general experimentation or to gather ideas	17 (5%)	
2. Application (12 responses coded in multiple categories)	Creating resources	33 (9%)	58 (16%)
	Assessment or feedback	16 (4%)	
	Encouraging self-study	14 (4%)	
	Other	11 (3%)	

In coded open responses, most participants (75%) reported not having used ChatGPT for teaching purposes (80% if those who did not respond are included), with some having no experience at all ("I've never used it or heard of it") and others not having used it for reasons such as the timing of its release ("None yet because I learned about it too late in the semester, but plan to start next semester"). Of those describing use, 5% were categorised in the *Exploration* stage, indicating initial experimentation through comments like "I'm just beginning to use it. And I'm still experimenting." and "At present, just tried it out by myself, but am thinking of how it can assist in students' writing and research skills development". Limited uptake for classroom application may have been connected to a lack of technological knowledge, which would align with Chiu and Chai's (2020) pre-ChatGPT study that found teachers lacked knowledge on AI implementation.

Use of ChatGPT for teaching purposes (*Application* stage) was reported by 16%, which was further categorised into:

- Creating resources (9%): "Generate example essays which would otherwise take forever to write."
- Assessment/feedback (4%): "I have used it to produce reading exam texts and MCQs (multiple choice questions)."
- Encouraging self-study (4%): "I have recommended that students use it as an alternative to a human speaker as a way to practice English."
- Other uses (3%): "I had them write a summary of a story and then compare their summary with ChatGPT's."; "Had students scan a reading text from their book and generate discussion questions. Having the bot rate their answers is a good idea."

In summary, while most teachers were still unaware of ChatGPT or aware but not engaging with it, early adopters were already exploring it, and some had taken a step further to begin using it for educational objectives.

2. What were Language Educators' Views on Adopting ChatGPT for Educational Purposes Within Ten Weeks of its Release?

Interest and likelihood of use

Overall, teachers expressed a high level of interest in using ChatGPT for educational purposes, with 68% saying they were "very interested" or "interested" in using it in the future.

In terms of specific teaching tasks, teachers were mainly open to using ChatGPT to create learning resources, especially materials for reading and writing activities. The median for all resource creation tasks was 4. Teachers particularly favoured creating reading materials (M = 3.69) and writing templates (M = 3.63), as shown in Table 5.

However, teachers were much less receptive to using ChatGPT for assessment purposes. The median was 3 across all proposed assessment tasks. Approximately half felt they would use ChatGPT for automated marking of multiple-choice tests (M = 3.24), but interest dropped considerably for automated feedback on writing (M = 2.99) and marking of writing (M = 2.78), as shown in Table 6.

Teachers were open to using ChatGPT to guide student self-study, with a median of 4 for most self-study tasks. Teachers were especially interested in ChatGPT's potential as a virtual conversation partner (M = 3.47) and virtual tutor (M = 3.42), as displayed in Table 7.

Table 5 *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*	*Mdn*	*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	4	1.29
Grammar: Generate worksheets with grammar rules, examples, and exercises.	16.6%	37.1%	19.3%	13.4%	13.6%	3.30	4	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	4	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	4	1.12
Conversation: Generate scripts for role-playing activities.	20.7%	34.3%	17.2%	13.4%	14.4%	3.34	4	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	4	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	4	1.33

Altogether, these results indicate teachers' interest in adopting ChatGPT for different tasks varied. They were more open to using it for common language teaching activities (especially for reading and writing) and guiding self-study, than for feedback and assessment. Their reluctance to use ChatGPT for assessing student writing possibly reflects both uncertainties about ChatGPT's capabilities for reliably assessing student work, as well as potential ethical concerns about entering students' work into the system without their approval.

Table 6 *Language educators' likelihood of using ChatGPT to aid with assessment*

	Extremely likely (5)	Somewhat likely (4)	Neither (3)	Somewhat unlikely (2)	Extremely unlikely (1)	*M*	*Mdn*	*SD*
Automated feedback on writing tasks: Provide feedback on grammar, vocabulary, and style on students' writing tasks (essays and short answers).	12.8	29.7	20.7	17.7	19.1	2.99	3	1.32
Automated scoring of writing tasks: Grade students' writing tasks (essays and short answers).	12.0	22.3	21.5	19.9	24.3	2.78	3	1.35
Automated scoring of multiple-choice tests: Grade multiple-choice tests.	24.5	25.3	19.1	11.7	19.3	3.24	3	1.44

Perceived benefits and concerns

Analysis of open-ended responses revealed a range of perspectives on ChatGPT's educational potential, as shown in Table 8. The spectrum of perceptions, ranging from optimistic to cautious to uncertain was relatively evenly distributed.

Key benefits identified by teachers included efficiency gains, time saving, automated assessment feedback and support for self-study. For example, one teacher noted that ChatGPT "takes a lot of heavy lifting away". Another commented that the tool could "save time searching for materials". Teachers also pointed to benefits for assessment, such as the ability to "generate feedback for students' assessments". Others noted useful applications for self-study, such as using ChatGPT as a "virtual tutor".

The benefits identified by teachers are consistent with those proposed in recent publications. Hong (2023) noted the potential for efficiency gains, while Barrot (2023) highlighted benefits for efficiency, assessment support and self-directed learning. Hockly (2023) described benefits for language development through chatbots more broadly, as they can provide conversational practice, language exposure, and boost confidence and motivation.

However, significant concerns were also raised. The risk of misuse and enabling cheating was the most prominent issue, identified by 62 teachers. This aligns with issues of academic integrity raised by Tseng and Warschauer (2023) and Creely (2023). Over-reliance was another key concern, with fears of students "becoming dependent on the tool", which would potentially reduce creativity and critical thinking, as warned by Creely (2023). The accuracy of results was also criticised, with one teacher sharing: "Results I've seen from asking ChatGPT relatively simple grammar questions have been wildly erratic". The potential for culturally biased or inaccurate content was highlighted as a major limitation by Creely (2023). In response to this issue, Tseng and Warschauer (2023) proposed a pedagogical model that emphasises the need to corroborate and fact-check AI-generated content.

Table 7 *Language educators' likelihood to use ChatGPT to guide self-study*

	Extremely likely (5)	Somewhat likely (4)	Neither (3)	Somewhat unlikely (2)	Extremely unlikely (1)	*M*	*Mdn*	*SD*
Virtual conversation partner: Students use ChatGPT to have conversations on various topics.	20.5	39.2	17.4	13.1	9.8	3.47	4	1.23
Virtual tutor: Students use ChatGPT to ask questions and get feedback on their language skills.	17.4	39.5	20.7	12.3	10.1	3.42	4	1.2
Adventure game: Students use ChatGPT to generate an interactive language learning game, where they solve puzzles and complete tasks to progress through the story.	17.4	38.7	18.3	13.9	11.7	3.36	4	1.25
Personalized study planner: Students use ChatGPT to generate a personalized study plan based on their language level and learning goals, including recommended activities and resources.	17.2	32.7	22.1	15.5	12.5	3.26	3	1.27
Personalized AI-assisted feedback: Students use ChatGPT to get automated feedback and assessment scores.	20.7	30.5	20.2	15.8	12.8	3.31	4	1.31

Table 8 *Benefits and concerns over ChatGPT use for educational purposes*

Code	Description	Respondents
Only Benefits	Only beneficial aspects were raised	86 (23%)
Only Concerns	Only concerns were raised	96 (26%)
Mixed Feelings	Both beneficial aspects and concerns were raised	81 (22%)
Neutral/None	No benefits or concerns were raised	100 (27%)
Ambiguous	The response was unclear to the researchers	4 (1%)

Some participants conveyed a mixture of optimism and caution, highlighting the double-edged potential of this technology. For example, one teacher noted that while ChatGPT could be beneficial for teaching, overuse could replace teachers, noting: "I will use it as an auxiliary tool … the development of AI at a higher level could replace the language teaching profession itself". Tseng and Warschauer (2023) addressed this issue by emphasising the importance of finding balance in the integration of AI tools rather than allowing them to replace human roles. Others saw it as a useful resource, but worried about misuse for plagiarism. Some listed benefits such as "creating resources" but simultaneously feared that ChatGPT could "replace many other good practices in class", suggesting mixed feelings about its integration in the classroom. This ambivalence reflects the complex considerations that many teachers have with regard to ChatGPT.

Other participants expressed uncertainty, with some still assessing the suitability of ChatGPT for adoption. As Barrot (2023) highlighted, while AI tools like ChatGPT challenge writing pedagogy, they also create opportunities to reassess approaches. Teachers appear to be in this process of making sense of whether and how to incorporate ChatGPT into their teaching practice.

In responses coded as neutral, some teachers indicated that they were still evaluating the suitability of ChatGPT for adoption. This aligns with findings from a study conducted with educational institutions throughout Canada that found many educators were still in the early exploratory stages of understanding AI tools (Veletsianos, 2023). Data from that study revealed that only 13% of institutions had regulations, guidelines or policies on AI tools. Given that the present study was conducted closer to ChatGPT's release, it is expected that most participants had little, if any, guidance from their institutions, so their ambivalent response to this new technology is unsurprising.

3. What were Language Educators' Perceptions of the Potential Impact of ChatGPT on Language Education Within Ten Weeks of its Release?

Perceived impact through quantitative analysis

Teachers' views on the impact ChatGPT would have on language education were investigated through two quantitative questions. Their perceptions of how ChatGPT would impact the field of language education at large resulted in the following breakdown: 12.0% "very positively", 40.6% "somewhat positively", 26.7% "neither positively nor negatively", 16.9% "somewhat negatively" and 3.8% "very negatively". In other words, there was a slight tendency towards optimism. To understand this in more detail, respondents were asked to rate their level of agreement with eight statements representing possible positive and negative effects on language teaching and learning. Descriptive statistics for these items are provided in Table 9. Overall, educators expressed the greatest concern about potential negative impacts like increased cheating (M = 3.98) and student over-reliance on ChatGPT (M = 3.70). They were more uncertain but slightly agreed regarding positive impacts such as improved accessibility (M = 3.60) and more self-directed learning (M = 3.53).

To identify underlying dimensions in these impact perceptions, an exploratory factor analysis was conducted on the 8 items. Factor 1 represented perceived positive impacts and comprised four survey items with factor loadings ranging from .699 to .883. Factor 2 represented perceived negative impacts and comprised three survey items with factor loadings ranging from .644 to .802. Survey items for the extracted factors are shown in Table 10. Interestingly, the item "reduced dependence on human teachers for certain aspects of language instruction" did not load as positive or negative. Speculating broadly, this could reflect teachers' mixed feeling about this, as on the one hand less human dependence could lead to job loss, but on the other hand it gives learners more opportunities to improve through self-study.

Table 9 *Educators' views on the potential impact of ChatGPT on language education*

	Strongly agree (5)	Somewhat agree (4)	Neither (3)	Somewhat disagree (2)	Strongly disagree (1)	*M*	*Mdn*	*SD*
1. More efficient and effective **language assessment**	10.9%	26.2%	41.7%	13.6%	7.6%	3.19	3	1.05
2. More **personalized** language learning.	17.2%	36.5%	30.2%	9.3%	6.8%	3.48	4	1.09
3. More **self-directed** language learning	15.3%	39.8%	32.1%	7.9%	4.9%	3.53	4	1.00
4. Reduced **dependence on human teachers** for certain aspects of language instruction	13.9%	34.6%	28.6%	16.1%	6.8%	3.33	3	1.11
5. An increase in **cheating** and **academic dishonesty**	35.4%	35.4%	22.9%	4.4%	1.9%	3.98	4	0.97
6. A decrease in the **cultural and human aspects of language education**	14.7%	33.8%	29.4%	16.9%	5.2%	3.36	3	1.09
7. 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%	3.70	4	1.04
8. An improvement in the **accessibility** of language education	17.7%	40.3%	30.5%	6.8%	4.6%	3.60	4	1.00

Table 10 *Survey items comprising the extracted factors*

Factor 1: Positive Impacts	Factor 2: Negative Impacts
• Improved accessibility	• Increased cheating
• Personalised learning	• Decreased cultural/human aspects
• Self-directed learning	• Student over-reliance
• More effective assessment	

To validate the exploratory factor analysis, respondents' overall impact ratings for Q3.3 were compared to their factor scores from Q3.1 using ANOVA. Respondents were grouped into categories from 1 (very negative) to 5 (very positive) based on their responses to Q3.3. The groups showed significant differences between mean factor scores in the expected direction. In other words, those perceiving more positive (or negative) impacts overall scored higher on the corresponding positive (or negative) factor. This alignment provides evidence that the factors accurately represent perceived impacts. In summary, comparing overall ratings to factor scores supported the validity of the extracted factors.

To further analyse group differences in impact perceptions, the factor scores were compared across key subgroups of teachers using independent samples t-tests. Teachers who had used ChatGPT before had significantly higher positive impact scores ($M = 0.26$) compared to non-users ($M = –0.26$; $t = 5.53$, $p < 0.001$). This aligns with findings from research on machine translation conducted with language teachers (Ohashi, 2022) and a study with teachers of various subjects that found using ChatGPT more frequently led to more positive perspectives (Kaplan-Rakowski et al., 2023). However, there was no significant difference in negative impact scores between these groups. Likewise, teachers with experience creating resources with ChatGPT ($M = 0.56$) had higher positive but not negative impact scores than those who had not create resources (positive $M = –0.14$; negative $M = 0.03$). Finally, teachers who had used ChatGPT for assessment held both higher positive ($M = 0.68$ vs $M = –0.05$) and lower negative impact scores ($M = –0.37$ vs $M = 0.03$) compared to teachers who had not used it for assessment.

In summary, across all comparisons, hands-on experience related to more favourable attitudes regarding ChatGPT's potential benefits, with only use for assessment significantly reducing negative impact perceptions.

Perceived impact through qualitative analysis

Q3.2 collected open-ended responses about ChatGPT's potential impact in order to further understand educators' perceptions. A qualitative coding process categorised these responses into stages ranging from 0 (*Unaware or Unconcerned*) to 5 (*Collaboration*) based on the researchers' adapted version of the Concerns-based Adoption Model (CBAM), introduced in the methods section (Table 2). The distribution of themes across these CBAM stages provides insight into educators' varying levels of concern regarding ChatGPT's impact (see Table 11).

Most responses (174) fell into the *Consequence* stage, indicating that many teachers had begun to consider specific implications on students and the field of language education at large, recognising both affordances and detrimental aspects. This was followed by the *Management* stage (97), which highlighted factors related to how teachers would do their jobs after the release of ChatGPT. However, only four respondents had reached the *Collaboration* stage, signalling a very limited focus on the need for cooperation or a united response from language educators. The prevalence of responses at the early CBAM stages of *Awareness of Impact* and *Personal* supports models showing adoption is a gradual developmental process (Straub, 2009). ChatGPT was new for both teachers and students, with many unsure of how to proceed. Given the lack of immediate recognition for the need for teamwork amongst educators, it is likely students were receiving quite different levels of guidance, if any at all. Moving forward, this will be an area that needs greater attention. For now, the present study provides baseline data at the starting point of language teachers' engagement with ChatGPT.

This exploratory study provides initial insights into language educators' responses to ChatGPT in the critical early period following its release. While awareness was relatively high, actual use for educational purposes remained quite low. Interest in adopting ChatGPT was tempered by ethical

Table 11 *Qualitative responses by adapted CBAM stage and theme*

Response Examples
0: Unaware or Unconcerned (n = 68)
Oblivious: I don't know what ChatGPT is.
Dismissive: Just another hype that will be replaced by another hype.
Non-committal: I'm not sure. There are cycles when new tech seems threatening or expansive. Some fall flat.
1. Awareness of Impact (n = 69)
Magnitude of Impact: As a brand-new technology, it is hard to say. But I expect the impact to be significant.
Vaguely Expressed Opinion: If used successfully could be a great tool.
2. Personal (n = 21)
Job Loss: ...while also rapidly increasing the removal of full or part-time faculty in favour of out-sourced second language providers - who will simply become software vendors.
Training: Teacher training is required in all areas and inadequately provided.
3. Management (n = 97)
Job-based Integration: Classroom procedures and foci will change. Teachers will handle the more human-oriented aspects of teaching and use ChatGPT to give them more time to do that.
Dealing with Misuse: For students that I teach I foresee it as a tool to try and cheat on writing tasks. I will need to rethink my writing and speaking topics.
4. Consequence (n = 174)
Student: It'll lead to more self-directed learning which may benefit some students. On the other side of the sword, it potentially leads to excessive reliance on the tool or cheating for some students.
L2 Education: It will start a paradigm shift in how language is taught in most schools.
5. Collaboration (n = 4)
Sharing: Teachers/students will devise ways to incorporate it into their programs. If the community shares their ideas, we will all benefit.
Discussing: The policing stance appears to be in dominance now by administrations. Teachers appear to be mixed on whether to fight it or give in - which is a false dichotomy IMHO. Dialogue is needed among all interested parties that is honest and forward-looking, but alas, nothing in my experience, training, and knowledge of educational institutions gives me confidence that this will happen now.

concerns and perceived risks. Teachers expressed a mix of optimism about the benefits of efficiency and self-directed learning, and caution about enabling academic misconduct and over-reliance. Direct experience with ChatGPT was associated with more positive perspectives, consistent with patterns from research on machine translation tools (Ohashi, 2022). Adoption is clearly at an early stage of development. As this technology advances, empirical research should track how responses evolve to inform policy, training and pedagogical integration. For now, this study establishes a baseline understanding of teachers' needs, concerns, and processes as AI-based language tools emerge. The findings call for support in developing critical AI literacy as a basis for informed AI integration in the language learning curriculum.

Limitations

Snowball sampling attracted a large number of participants when time was of the essence, but it limits the generalisability of the findings. As no regional quotas were put into place, there was substantial variation between regions and these imbalances meant it was not possible to understand how teachers in different parts of the world were responding to ChatGPT. However, the large sub-sample of Japan-based teachers (n = 143) will provide useful insights after further analysis. Comparisons by language could not be meaningfully investigated due to large discrepancies in the number of teachers per language. Issues preventing comparability were exacerbated due to 23 participants teaching multiple languages and 2 not identifying the language they taught. The researchers also overlooked the importance of asking what part of the academic year teachers were in at the time of the study, which surely would have influenced aspects such as ChatGPT's use for teaching purposes, and they did not ask if it was banned in participants' institutions. Finally, the study lacked observational verification as it drew on self-reported usage. Despite these limitations, the study provides valuable insights into teachers' initial response to this new technological shift.

Implications

This study captured language educators' initial response to ChatGPT ten weeks after its release and it is likely that since that time their knowledge, experience and views have changed. However, the data collected offers a valuable starting point for addressing issues that educators need to consider. Firstly, there is much interest in using ChatGPT for educational purposes, but teachers also raised valid concerns that need to be addressed. ChatGPT has the potential to aid teachers in creating learning resources, assist with assessment, and help them to guide students towards self-study tasks, but many questions remain. For example, what type of training do educators need to learn how to use ChatGPT for these tasks and to understand when it is appropriate to do so? Is it the responsibility of individual teachers to seek opportunities to increase their skills independently, or does the responsibility lie with their employers? Who should bear the costs, both in terms of time commitment and paid training? And who should decide when it is acceptable to use ChatGPT for educational tasks? Is it ethically acceptable, for instance, for teachers to turn over the grading of students' written work to a chatbot? While teachers' likelihood of doing this was the lowest for all tasks in the survey, over a third indicated they would be somewhat or very likely to do it. Many teachers were worried about students using ChatGPT to cut corners with their written work. How, in contrast, would students feel about teachers doing the same with feedback? Serious discussions and empirical enquiry are needed to address these issues.

Avenues for Further Research

This study captured the initial response of language educators to ChatGPT, paving the way for comparative studies that can be done to show how the response changes over time. A direct comparison will not be possible as the study was conducted with an anonymous convenience sample, but a comparison of the general trends in this initial study and those conducted later would provide an indication of shifts in teachers' views and practices. The Japan-based sub-sample (n = 143), which will be reported after further analysis, offers a particularly useful point of comparison for research within tertiary education in Japan.

Another possibility for research lies in the exploration of the same topics with students, adding questions to garner their views on teachers' use of ChatGPT for teaching purposes. In fact, a draft of such a study has been created by one of the researchers and will be conducted with university students in Japan. More exploratory work on this with students in other parts of the world and at other educational levels would be very valuable.

Conclusion

This exploratory study provides initial insights into language teachers' responses to ChatGPT in the critical early period following its release. As one of the first studies to focus specifically on teacher adoption, it makes an important contribution to the emerging literature on generative AI in language learning, illuminating teachers' optimism and fears, and ultimately calling attention to a need for more support and guidance. In the years ahead, many articles will expand on this and together they will form a valuable resource that extends knowledge within our field. As this article has documented teachers' views and experiences in the first ten weeks of ChatGPT's release, it will be a useful point of reference.

The study's mixed-methods results indicate interest in potential benefits such as efficiency, assessment support and self-directed learning. However, common concerns include the risk of misuse and negative impact on learning. By documenting awareness, usage, attitudes, and perceptions during this pivotal early period, the study provides significant insights for support and policy as language education enters a new era. Comparisons with future research will highlight evolving responses as teachers' experience grows. As one of the first studies to focus on teacher adoption, this timely study meaningfully advances understanding of initial integration processes as transformative AI emerges. It establishes a baseline for monitoring changes in practice and perspectives over time.

Note: This article expands on initial results published in a short paper (Ohashi & Alm, 2023) after EUROCALL 2023.

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Appendix

The questions below were originally posed online through Qualtrics and have been reformatted for readability.

Demographics

Which country do you currently work in?

Are you a second/foreign language teacher at a university?

- Yes (please continue)
- No (please do not complete this survey)

Which second/foreign language(s) do you teach? Write all languages that you teach in the box below.

What is your gender?

- Male
- Female
- Non-binary
- Prefer not to say

Part 1

1.1 Have you heard of ChatGPT?

- I have heard the name and know a lot about it
- I have heard the name and know a bit about it
- I have heard the name but know nothing about it
- I have never heard of it

1.2 Have you ever used ChatGPT? (yes, no)

1.3 How interested are you in using ChatGPT in the future in your role as a language teacher? (Likert scale: very interested, interested, unsure, not interested, not at all interested)

1.4. Thinking about your current familiarity with ChatGPT, how well do you think you would be able to do the following tasks. (Likert scale: extremely well, very well, moderately well, slightly, not well at all)

- Prepare learning resources
- Create language learning resources
- Create automated assessment tasks
- Guide students on self-study tasks

1.5 Overall, how would you rate your familiarity with ChatGPT on a scale of 0 to 10. Note that 0 is completely unfamiliar and 10 is extremely familiar.

Part 2

2.1 ChatGPT claims it can be used to create the following language learning resources. How likely are you to use it for these tasks? (Likert scale: extremely likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, extremely unlikely)

- **Vocabulary**: Generate flashcards with vocabulary words and their definitions, translations or synonym.
- **Grammar**: Generate worksheets with grammar rules, examples, and exercises.
- **Writing**: Generate templates for different types of writing, such as an essay, a letter, or a report.
- **Reading**: Generate reading passages or texts on different topics and levels of difficulty.
- **Conversation**: Generate scripts for role-playing activities.
- **Quizzes and tests**: Generate quizzes and tests on different language skills, such as vocabulary, grammar, reading comprehension, and listening.
- **Games**: Generate language learning games such as crossword puzzles, word searches, and hangman games.

2.2 Have you ever used ChatGPT to create **language learning resources**? (yes, no)

2.3 ChatGPT claims it can be used for **assessment**. How likely are you to use it for the following purposes? (Likert scale: extremely likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, extremely unlikely)

- **Automated feedback on writing tasks**: Provide feedback on grammar, vocabulary, and style on students' writing tasks (essays and short answers).
- **Automated scoring of writing tasks**: Grade students' writing tasks (essays and short answers).
- **Automated scoring of multiple-choice tests**: Grade multiple-choice tests.

2.4 Have you ever used ChatGPT to assist with **assessment**? (yes, no)

2.5 ChatGPT claims it can be used for self-study by language learners. How likely are you to **advise students** to use it in the following ways? (Likert scale: extremely likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, extremely unlikely)

- **Virtual Conversation Partner**: Students use ChatGPT to have conversations on various topics.
- **Virtual Tutor**: Students use ChatGPT to ask questions and get feedback on their language skills.
- **Adventure Game**: Students use ChatGPT to generate an interactive language learning game, where they solve puzzles and complete tasks to progress through the story.
- **Personalized Study Planner**: Students use ChatGPT to generate a personalized study plan based on their language level and learning goals, including recommended activities and resources.
- **AI-Assisted Feedback**: Students use ChatGPT to get automated feedback and assessment scores.

2.6 Have you ever **advised students** to use ChatGPT for self-study? (yes, no)

2.7 Please describe how you have used ChatGPT to **create language learning resources**, **assess students' work** and/or how you have advised students to use it for **self-study**. Write 'none' if you have not done any of these. Feel free to share your response as a brief list or describe in more detail. (open-ended)

2.8 Please share any benefits you foresee and/or concerns you have about using ChatGPT to create **language learning resources**, **assess students** and/or advise students to use it for **self-study**. (open-ended)

Part 3

3.1 This section examines teachers' initial perceptions of the **potential impact of ChatGPT on language education**. Indicate your level of agreement with each statement. (Likert scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree)

- ChatGPT will lead to more efficient and effective **language assessment**.
- ChatGPT will lead to more **personalized** language learning.
- ChatGPT will lead to more **self-directed** language learning.
- ChatGPT will lead to **reduced dependence on human teachers** for certain aspects of language instruction.
- ChatGPT will lead to an increase in **cheating** and **academic dishonesty**.
- ChatGPT will lead to a decrease in the **cultural and human aspects of language education**.
- ChatGPT will lead to students becoming **too reliant** on it and **not** developing their own language skills and critical thinking abilities.
- ChatGPT will lead to an improvement in the **accessibility** of language education.

3.2 In your own words, what **impact** do you think ChatGPT will have on language education? (open-ended)

3.3 Overall, how do you believe ChatGPT will **impact** the field of language education? (Likert scale: very positively, somewhat positively, neither positively nor negatively, somewhat negatively, very negatively)