



The attitudes and perceptions of Chinese Literature students in Mandarin learning using ChatGPT

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Abstract

Nowadays, ChatGPT usage is widely known in various aspects, including language learning. This study aims to understand the perceptions and attitudes of Chinese literature students regarding the use of ChatGPT for Mandarin learning. A survey research method was employed, and data were collected from 32 students who had experience using ChatGPT for Mandarin learning. The findings indicate that students generally have positive perceptions and attitudes towards ChatGPT, considering it convenient and effective for learning Mandarin. They perceive various advantages of ChatGPT, such as improving the quality of their Mandarin learning and enhancing their language skills. However, concerns about potential disadvantages, such as issues with plagiarism or inaccurate information, were also identified. These findings suggest that ChatGPT is a valuable tool for Mandarin learning, but further research is needed to address concerns related to plagiarism and accuracy to optimize its effectiveness in educational settings.

Keywords

ChatGPT, Mandarin learning, Student perceptions

Introduction

In this era of rapidly advancing digital technology, like China's remarkable economic growth and technological advances have made Mandarin the second most widely used international language (Murtadhoh & Arini, 2023). The rise to prominence of the Mandarin language globally has sparked widespread interest in learning the language, driven by professional needs and personal motivation. At the same time, as the demand for Mandarin learning continues to grow, technology has evolved to meet learners' needs. One notable innovation that has emerged as a prominent solution is ChatGPT.

ChatGPT (Chat Generative Pre-trained Transformer), a language model developed by OpenAI. ChatGPT utilizes artificial intelligence (AI) to engage in human-like conversations, making it a valuable tool for language learners (Li, et al., 2022). Its applications extend to various domains, including foreign language learning (Hsu, Chen, & Todd, 2023).

In recent years, large language models like ChatGPT-3 have transformed natural language processing (NLP) and have been widely used for tasks such as summarization, translation, grammar correction, and chatbots (Floridi & Chiriatti, 2020). This technology has garnered significant attention from both the media and scholars (Liu B. , 2023), emerging as a versatile tool with immense potential in education (Li, et al., 2022; Rudolph, Tan, & Tan, 2023).

Numerous studies have highlighted the advantages of ChatGPT in language learning, with students expressing positive attitudes towards its use in academic learning (Batra & Verma, 2023). ChatGPT facilitates various tasks, including generating dialogue texts, improving grammar, enhancing vocabulary comprehension, and providing language practice exercises (Liu, Darwin, & Ma, 2024; Božić & Poola, 2023). Additionally, it offers explanations of grammar and vocabulary, contributing to a more engaging and effective learning experience (Kasneci, et al., 2023).

Despite its potential benefits, integrating ChatGPT into language learning presents several challenges. Concerns remain about its accuracy, especially in understanding context and providing appropriate responses (Setiawan, Karuniawati, & Janty, 2023). Moreover, there are potential academic issues associated with its use, including plagiarism and inaccuracies in responses (Božić & Poola, 2023; Kasneci, et al., 2023; Iqbal, Ahmed, & Azhar, 2022).

To address these challenges effectively, it is crucial to understand students' perceptions and attitudes towards ChatGPT in Mandarin learning. Therefore, this study explores Mandarin literature students' perceptions and attitudes toward using ChatGPT for learning Mandarin. By understanding students' perspectives and attitudes toward this technology, teachers can better assess the effectiveness of ChatGPT in language learning. This understanding can help optimize and enhance ChatGPT to support Mandarin learning more effectively, contributing to the development of language skills among students worldwide.

Method

The design of this research is a survey research method. The survey research method is quantitative research. According to W. Lawrence in (Sugiyono, 2019), the survey research method is a quantitative research method used to obtain data that has occurred in the past or present, regarding beliefs, characteristics, behaviour, relationships, and psychology from samples taken from certain populations. Data collection techniques are interviews or questionnaires that are not in-depth, and research results tend to be generalized.

There are 32 Chinese Literature students who have been using ChatGPT to support and enhance their Mandarin learning both in and outside the classroom were selected through purposive sampling to participate as respondents.

The questionnaire was adapted from multiple sources to ensure it effectively captured students' perceptions and attitudes toward ChatGPT in Mandarin learning. The initial framework of this instrument was designed by Yang (2003), which measured students' beliefs and learning strategy use. Yang's questionnaire itself was derived from two established instruments. First is Horwitz's (1987) Beliefs About Language Learning Inventory (BALLI), this questionnaire used to assess students' beliefs about language learning and the second one is Oxford's (1989) Strategy Inventory for Language Learning (SILL, EFL/ESL 7.0 version), this questionnaire used to measure the frequency of language learning strategy use. Hasan (2019) later modified this questionnaire in his study, "Portfolio Assessment in Writing Courses: Attitudes of Students from the Department of English, University of Dhaka." More recently, Liu B. (2023) further adapted it in his article, "Chinese University Students' Attitudes and Perceptions in Learning English Using ChatGPT," making it more relevant to AI-based language learning contexts.

For this study, Liu B. (2023)'s modified questionnaire was used as the primary reference, with adjustments made to focus specifically on Mandarin learning. This adaptation was necessary to align the questionnaire with the research objectives, ensuring that the items accurately reflected the context of Mandarin language acquisition using ChatGPT

The questionnaire consisted of 19 statements, divided into four categories: Students' perceptions or understanding using ChatGPT in Mandarin Learning (6 items), students' attitude towards actual practice in using ChatGPT for Mandarin learning (5 item), student's perceptions regarding the advantages of ChatGPT (5 items), and student's perceptions regarding the disadvantages of ChatGPT (3 items).

The questionnaires were distributed via Google Forms to students with experience using ChatGPT for learning Mandarin. The responses were then processed using Microsoft Excel. The questionnaire was administered in Indonesian to ensure clarity and ease of comprehension for participants. This study used a five-point Likert scale to collect data, with response options rated as follows:

- Point 1 which means "Strongly Disagree".
- Point 2 which means "Disagree".
- Point 3 which means "Neutral".
- Point 4 which means "Agree".
- Point 5 which means "Strongly Agree".

Concern with accuracy or the reliability of the questionnaire, the research also does the reliability test with SPSS. According to (Ursachi, Zait, & Horodnic, 2015), the acceptable level of reliability is Cronbach's alpha of 0.6-0.7, and 0.8 or greater a very good. According to (Taber, 2018) the alpha values were described as excellent (0.93-0.94), strong (0.91-0.93), reliable (0.84-0.90), robust (0.81), fairly high (0.76-0.95), high (0.73-0.95), good (0.71-0.91), relatively high (0.70-0.77), slightly low (0.68), reasonable (0.67-.87), adequate (0.64-0.85), moderate (0.61-0.65), satisfactory (0.58-0.97), acceptable (0.45-0.98), sufficient (0.45-0.96), not satisfactory (0.4-0.55) and low (0.11). The reliability test's questionnaire result is:

Table 1. Questionnaire reliability test result

Reliability Statistics	Internal Consistency
.881	Reliable

The result yielded a coefficient of 0.881, which is above the acceptable threshold (0.8), indicating high internal consistency. This suggests that the adapted instrument is reliable for assessing students' attitudes and perceptions toward using ChatGPT in Mandarin learning.

The use of this instrument is particularly suitable for this study because, it is based on well-established models for measuring beliefs, perceptions, and strategies in language learning, it has been previously validated in different language-learning contexts (e.g., English learning) and further refined in the context of ChatGPT-based learning and by modifying the questionnaire to fit Mandarin learning, it directly aligns with the study's research questions on how students perceive and engage with ChatGPT as a learning tool.

Results and Discussion

This study aims to understand Chinese literature students' perceptions and attitudes in Mandarin learning using ChatGPT, as well as to comprehend their perceptions regarding the advantages and disadvantages of ChatGPT. The following are the mean values for each category:

Students' perceptions or understanding using ChatGPT in Mandarin Learning

Table 2. Students' perceptions or understanding using ChatGPT in Mandarin Learning

No.	Statement	Mean
1	I find using ChatGPT to be simple and convenient	4.12
2	I believe ChatGPT can help me learn Mandarin more effectively.	3.96
3	Learning Mandarin with ChatGPT is enjoyable.	3.81
4	I find it easy to grasp the explanations provided by ChatGPT.	3.81
5	I am willing to spend time and effort to learn to use ChatGPT technology better.	3.68
6	I expect to use ChatGPT frequently for learning Mandarin in the future.	3.56

Based on Table 2, all scores show above average, with the highest mean is "I find using ChatGPT to be simple and convenient" statement with mean of 4.12, that show respondents strongly agreed that using ChatGPT for learning Mandarin is simple and convenient, they appreciate the tool's accessibility. This aligns with findings from previous studies (Batra & Verma, 2023), which highlight AI-based tools as user-friendly aids for language learning. The second highest mean is statement "I believe ChatGPT can help me learn Mandarin more effectively." with mean value 3.96. Respondents think that ChatGPT can help them learn Mandarin language more effectively. Numbers of respondent also find learning Mandarin with ChatGPT is enjoyable and easy to grasp the explanations provided by ChatGPT, this is show in statement "Learning Mandarin with ChatGPT is enjoyable." and "I find it easy to grasp the explanations provided by ChatGPT.", both with same mean value 3.81. Students also willing to spend time and effort to learn to use ChatGPT to learn Mandarin, this is show in statement "I am willing to spend time and effort to learn to use ChatGPT technology better." with mean value 3.68. For the lowest mean value goes to "I expect to use ChatGPT frequently for learning Mandarin in the future" statement with mean value of 3.56. Overall, the mean values of statements in this category indicate that respondents' perceptions or understanding of ChatGPT for learning Mandarin are positive. This result is consistent with the findings of Hsu, Chen, & Todd (2023), who found a positive perception towards the use of ChatGPT.

Students' attitude towards actual practice in using ChatGPT for Mandarin learning

Table 3. Students' attitude towards actual practice in using ChatGPT for Mandarin learning

No.	Statement	Mean
7	I use ChatGPT to increase my interest and motivation in learning Mandarin.	3.37
8	I use ChatGPT to understand new Chinese words.	4
9	I use ChatGPT to improve my Mandarin speaking and listening skills.	2.68
10	I use ChatGPT to improve my Mandarin reading and writing abilities.	3.78
11	I use GPT technology to learn more about Mandarin language and culture.	3.71

Based on Table 3, the highest mean is "I use ChatGPT to understand new Chinese words." statement with mean of 4. Respondents strongly agreed that using ChatGPT can help

them in understanding Chinese new vocabulary better. The second highest mean is “I use ChatGPT to improve my Mandarin reading and writing abilities.” Respondent agreed learning Mandarin with ChatGPT for developing their reading and writing abilities. This aligns with several studies that have found ChatGPT to be effective in improving writing skills (Li, Li, & Cho, 2023). For statement “I use GPT technology to learn more about Mandarin language and culture.” have 3.71 mean value. Respondents are willing to use ChatGPT to understand Chinese language and culture. For the lowest mean value goes to “I use ChatGPT to improve my Mandarin speaking and listening skills.” with mean value is 2.68. This suggests that while ChatGPT may enhance reading and writing skills, it does not fully substitute interactive oral practice, which remains crucial for developing spoken fluency (Liu, Darwin, & Ma, 2024). However, some students are still willing to use ChatGPT to develop their communication skills. Overall, the mean values of statements in this category indicate that respondents have a positive attitude towards using ChatGPT for learning Mandarin. This study's findings are in line with Abdaljeel, et al. (2023), as the research identified a favourable attitude towards employing ChatGPT for learning.

Students' perceptions regarding the advantages of ChatGPT

Table 4. Students' perceptions regarding the advantages of ChatGPT

No.	Statement	Mean
12	I think ChatGPT can help me improve the quality of my Mandarin learning.	3.81
13	I believe ChatGPT can increased my willingness to learn Mandarin actively.	3.46
14	I think ChatGPT helps me identify my strengths and weaknesses in Mandarin writing effectively.	3.62
15	I think ChatGPT can help me enhance my Mandarin skills.	3.81
16	I think ChatGPT can help my future independent learning	3.75

Based on Table 4, all score shows above average, most students agreed on the statement relating to the advantages of ChatGPT. The statement “I think ChatGPT can help me improve the quality of my Mandarin learning.” and “I think ChatGPT can help me enhance my Mandarin skills” have a same mean value 3.81. The statement “I think ChatGPT can help my future independent learning” have a mean value 3.75. These findings align with Kasneci, et al. (2023), who emphasized ChatGPT's ability to promote self-directed learning in language education. Respondent agreed ChatGPT's ability to provide explanations for grammar and vocabulary and improve writing, students believe that using it for writing can effectively help them identify their strengths and weaknesses in writing skills, is show in statement “I think ChatGPT helps me identify my strengths and weaknesses in Mandarin writing effectively” with mean value 3.62. The statement with the lowest mean value 3.46 is “I believe ChatGPT can increased my willingness to learn Mandarin actively.” Despite. Overall, respondents show positive attitudes towards using ChatGPT for improving and enhance mandarin learning abilities, this result is consistent with the findings of Liu B. (2023).

Students' perceptions regarding the disadvantages of ChatGPT

Table 5. Students' perceptions regarding the disadvantages of ChatGPT

No.	Statement	Mean
17	I think ChatGPT may have issues with plagiarism or information leakage.	3.68
18	I think ChatGPT's responses may contain some inaccurate information.	2.31
19	I might try other apps like Pleco or Google Search for learning Mandarin.	4

Based on Table 5, the overall mean score for students' perceptions regarding the disadvantages of ChatGPT is average. The highest value mean is for the statement "I might try other apps like Pleco or Google Search for learning Mandarin." This indicates that while ChatGPT is a valuable tool, students do not rely on it exclusively and prefer using multiple learning resources. Regarding the statements "I think ChatGPT may have issues with plagiarism or information leakage." with a mean score of 3.68, respondent concerns about plagiarism and inaccurate responses were notable. The statement "I think ChatGPT's responses may contain some inaccurate information.", with a mean score of 2.31. This indicates that students perceive potential concerns about plagiarism, information leakage, and inaccuracies in ChatGPT's responses. These findings highlight the need for clear guidelines on how to use ChatGPT ethically in academic settings. Future research should explore how educators can integrate AI-based tools responsibly while mitigating the risk of over-reliance on AI-generated content.

Conclusion

The advancement of AI technology has shown promise in supporting the teaching and learning process, with Chat GPT emerging as a potentially effective tool for Mandarin learning. However, alongside its benefits, there are also several challenges and limitations associated with its use. Despite occasional inaccuracies in the information provided by Chat GPT, students may try to use other applications for Mandarin learning.

In conclusion, this study investigated the perceptions and attitudes of Chinese literature students towards the use of Chat GPT in their language learning endeavors. The findings suggest that students generally view Chat GPT positively, regarding it as a convenient and effective tool for Mandarin learning. They are inclined to use it frequently in the future and recognize several benefits, such as improving the quality of their Mandarin learning, fostering active learning attitudes, and enhancing their language skills.

However, concerns exist regarding potential drawbacks like plagiarism or inaccuracies. Despite these concerns, students remain confident in Chat GPT's ability to support their Mandarin learning journey. Therefore, it is crucial to address these concerns by implementing clear guidelines to ensure responsible use of the technology in academic settings (Liu B., 2023; Cotton, Cotton, & Shipway, 2023).

Establishing clear guidelines will allow us to maximize the benefits of using Chat GPT for education and support students' learning effectively. This proactive approach will help

us utilize technological advancements in education while managing any potential risks. (Baidoo-Anu & Ansah, 2023; Ngo, 2023)

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