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Mandarin Learners' Use Perceptions of AI-Based Native Speaker Online Discussion Forums †

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Abstract: Current developments in language learning technology can connect native speakers to an artificial intelligence (AI)-based discussion forum for foreign language learning; HiNative is an application that answers the problems of foreign language learners by providing a discussion forum with answers that AI and native speakers double-check. This research was conducted on 56 respondents. In this study, portability, application usability, and interaction with native speakers were examined. The data obtained from the questionnaire were analyzed using a qualitative descriptive method. Mandarin learners responded positively to the portability of the HiNative application. Connections between native speakers assisted by AI increase the motivation of Mandarin language learners.

Keywords: AI-based apps; native; perceptions

1. Introduction

Learning a foreign language is a manageable challenge, thanks to the help of increasingly sophisticated technology. Mobile assisted language learning (MALL), a mobile-based language learning approach, has simplified language learning by allowing individuals to learn anytime and anywhere. It is supported by easy access to information in transition between mobile devices [1].

One of the foreign languages that is increasingly popular to learn is Mandarin, which has become popular in various parts of the world. Along with this increasing interest, there are many Mandarin learning applications such as HelloChinese, ChineseSkill, Duolingo, and many other related apps. The existing types of applications provide material in various categories, such as structured lessons, games, flashcards, and learning videos [2]. Language learning assisted by mobile apps positively impacts learner autonomy [3]. However, language learning requires direct interaction with other people, especially native speakers. They can provide an understanding of the language so that native speakers become a source of "truth" [4]. However, the objectives of foreign language learning must be adjusted so that the learner becomes part of the learning [5].

In this context, the role of technology becomes significant in enabling students to take part in foreign language learning with native speakers. The application focused on in this research is HiNative, which is based on a model of online questions and answers and discussions on a discussion forum platform. The app allows interaction between foreign language learners (askers) and native speakers of the language (answerers). HiNative apps give askers the freedom to ask questions related to the target language, while answerers can respond using their language and provide examples to support their explanations.

Based on this background, Mandarin learners' perceptions of using the HiNative application were analyzed in this research. This online discussion forum utilizes AI technology and a "human touch" from native speakers.

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2. Literature Review

2.1. MALL and AI

MALL is a language learning app for mobile devices. It integrates various language learning activities and prioritizes personal learning. The app is appropriate for students to learn anywhere and anytime [6]. Reciprocal learning can also be carried out using mobile devices in MALL, because it can accommodate collaborative learning between students through mobile device connectivity [7]. Language learning can be more comprehensive with multiple functions [8]. Integrating AI with MALL can revolutionize language learning, making it more personalized and enabling real-time language practice.

AI is used in language learning such as chatbots, virtual reality platforms, and personalized learning management systems to increase effective learning and learner satisfaction and motivation [9–11]. The use of AI in language learning activities improves the instruction and acquisition of language [12,13]. However, the effectiveness of language learning supported by AI depends on the involvement of teachers and students, and the role of AI in learning has received attention in research [14,15].

2.2. HiNative App for Foreign Language Learning

The HiNative application is known as an application that connects two groups of users, language learners and native speakers, using a question-and-answer method between the two groups [16,17]. HiNative supports the foreign language learning process, especially in aspects such as vocabulary learning, sentence structure, pronunciation, and the target language's culture [18–20].

3. Material and Methods

A descriptive qualitative analysis approach was used to determine Mandarin learners' perceptions of HiNative apps. The participants were 56 students majoring in Mandarin at a university in Indonesia. The participants in this research were accustomed to using the discussion forum. They used the HiNative apps intensively for a week and filled out a questionnaire. The questionnaire was created based on the technology acceptance model (TAM) framework and using a five-point Likert scale. TAM is a theoretical framework used in information systems to test the attitudes and behavior of mobile app users. The questionnaire items were formulated in three aspects: usability (PEOU), interaction (PU), and portability (PO). The usability aspect focused on a user-friendly interface and straightforward interaction, leading to a positive perception of ease of use. The interaction aspect focused on participants' communication with native speakers through existing mobile apps, supporting language skills and cultural understanding. Portability referred to the ease of access obtained, influenced by the mobile apps' ease of use and usefulness.

4. Results

4.1. Usability

Usability consisted of five items regarding mobile app usability when learning Mandarin (Table 1, Figure 1).

Table 1. Usability aspect.

Code	Items	Mean
Q1	HiNative is easy to use on my mobile phone	4.64
Q2	The features of HiNative make it easier to solve problems	4.34
Q3	The existing features make me understand the use of vocabulary/grammar	4.07
Q4	HiNative allows me to use Mandarin naturally	4.21
Q5	HiNative overall helped me in learning Mandarin	4.50
	Usability aspect perception	4.35

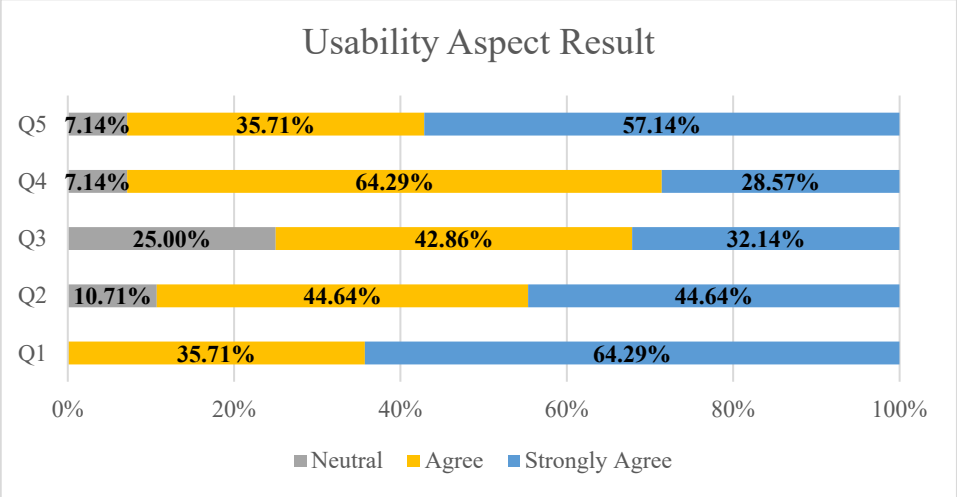


Figure 1. Usability of HiNative app.

After using the HiNative apps for one week, all participants agreed the HiNative apps were easy to use. The ease of access using the smartphone aligned with the perception of HiNative to solve problems encountered when learning Mandarin. In total, 44.64% of participants agreed with this statement, and 10.71% had a neutral opinion. The average score for this statement reached 4.34 (Table 1). This indicates that HiNative apps, which have a natural corpus, can be used to learn vocabulary/grammar in conversations. Massive numbers of learner corpora increase awareness about second language grammar [21] so that students can create their own learner corpora with near-natural corpora based on explanations and communication from native speakers in HiNative apps.

Of the features of the HiNative apps, all participants agreed that the functions in the HiNative apps helped them understand the use of Mandarin vocabulary/grammar. The useful knowledge was provided in the Q&A feature and discussion forum from native speakers using AI technology in the chatbot. In total, 75% agreed that HiNative enabled them to use Mandarin fluently, and 25.00% of the participants had a neutral opinion regarding this statement. Using HiNative apps, the user becomes a "silent reader," so that language practice is "imitation" without modifications according to the context of the speaker. Imitation is critical in foreign language learning because it is a cognitive construct of pronunciation, collocation of words, sentence sequences, and grammar [22]. However, imitation does not enhance language skills if it avoids conversational situations, motivation, and learning strategies [23].

Among all respondents, 93% strongly agreed that HiNative Apps helped them learn Mandarin. The relevant items in the questionnaire scored higher than 4, which indicated that they agreed that HiNative is an easy app for learning Mandarin.

4.2. Interaction

This aspect consisted of four items about perceptions of the interactions between participants and native speakers in HiNative apps (Table 2, Figure 2).

Communication between participants and native speakers is a form of learning material comprising voice recordings, example sentences, and explanations from the Q&A sessions. Among participants, 89% agreed that voice recordings provided by native speakers helped them with Mandarin pronunciation, 82% agreed that the examples of sentences and their usage provided by native speakers helped them understand Mandarin sentence structures, 14.29% had a neutral opinion, and 3.57% disagreed. The participants in discussion forums can become "silent viewers" who only see the presentation or answers from native speakers without being involved in two-way communication. In total, 86% agreed that communication with native speakers improved Mandarin language skills, and 14.29% had a neutral opinion. Overall, 89% of the participants agreed that communication with

native speakers increased motivation and interest in learning Mandarin. Their perceptions of the interaction were high, with an average score over 4. All participants agreed that HiNative apps supported language skills and cultural understanding. Compared with usability, interaction scored lower, reflecting that language learning relies on direct spoken and written interaction, and active participation in two-way communication is crucial. Interactive approaches in second language learning help learners by providing opportunities, situations, and processes conducive to development, such as input, negotiation, output, feedback, and attention [24]. Interactional feedback also positively impacts second language acquisition learners [25].

Table 2. Interaction.

Code	Items	Mean
Q1	Voice recordings provided by native speakers help me improve my Mandarin pronunciation	4.32
Q2	The examples given by native speakers help me to understand Mandarin sentence structures	4.07
Q3	Communication with native speakers helps me improve my Mandarin skills	4.25
Q4	Communication with native speakers increases my interest and motivation to learn Mandarin	4.32
	Interaction aspect perception	4.24

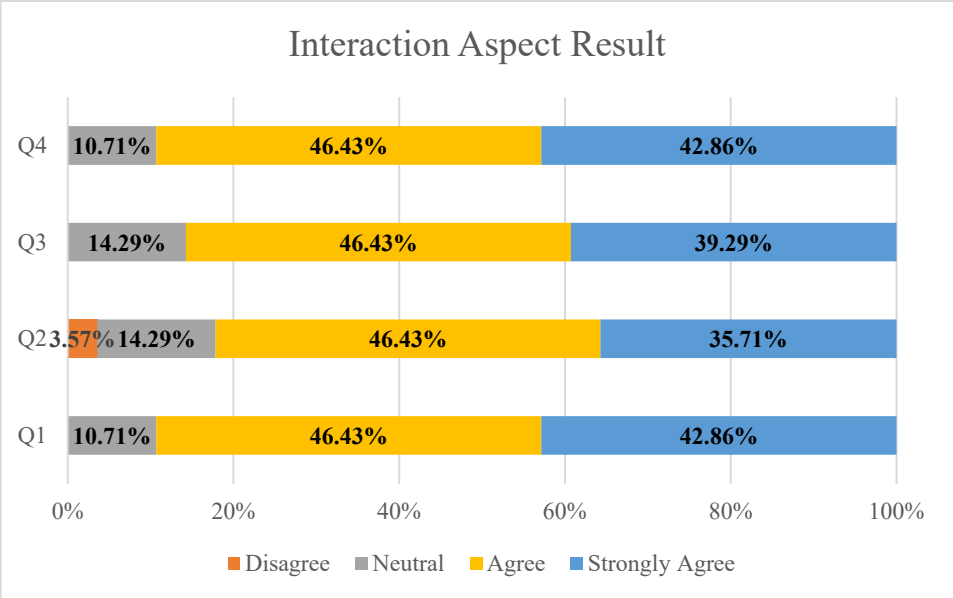


Figure 2. Interaction of HiNative app.

4.3. Portability

This aspect consisted of three items (Table 3, Figure 3).

Table 3. Portability aspect.

Code	Items	Mean
Q1	HiNative apps can be used anywhere and any time	4.71
Q2	I use HiNative apps in out-of-class learning	4.39
Q3	HiNative apps can be accessed with different electronic devices	4.39
	Portability aspect perception	4.50

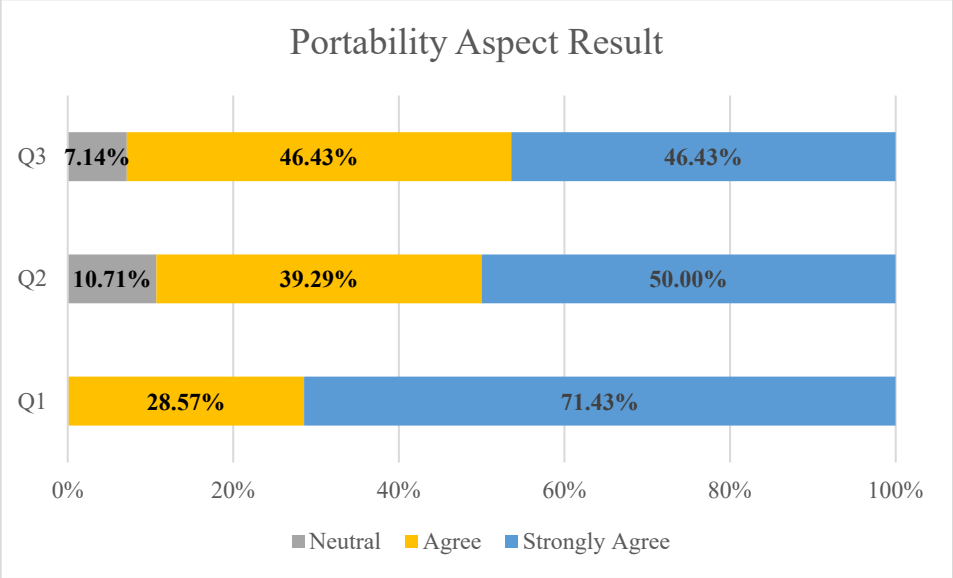


Figure 3. Portability of HiNative app.

Mobile apps are created for users to use anywhere and any time. All participants agreed that HiNative apps can be used anywhere and any time. Regarding its use in learning outside the classroom, 89 agreed that the HiNative app adopts the MALL principle for learning Mandarin, integrating various language learning activities and prioritizing personal learning [26]. In total, 10.71% had a neutral opinion because MALL learning is also related to the learner's intrinsic motivation, namely the initiative to learn independently. MALL learning does require internet access. Apart from smartphones, tablet computers are often used. In this study, 89 of the participants agreed they could access it using electronic devices. This encouraged students to access learning via devices other than smartphones. Their perceptions of portability showed that the HiNative app has the characteristics of mobile learning and portability and can be used anywhere at any time to support the Mandarin language learning process. The average score for portability was the highest (4.50), indicating ease of access, which was influenced by the ease of use and usability brought by the HiNative apps.

5. Conclusions

Student perceptions regarding the use of HiNative apps as an AI-based native speaker online discussion forum for learning Mandarin were examined. The participants responded positively to the use of this application in learning Mandarin. The HiNative app for learning Mandarin helped students improve their Mandarin language skills. They communicated with native speakers, which increased their motivation and interest in learning Mandarin.

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Informed Consent Statement: Patient consent was waived for this study because the participants were voluntarily involved.

Data Availability Statement: The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Şen, N.S. A Critical Review on the Mobile Assisted Language Learning with a Focus on Empirical Studies. *J. Learn. Teach. Digit. Age* **2021**, *6*, 117–126.
2. Chuang, H.Y. Mobile Assisted Language Learning APPs for the Chinese Classroom. *J. Technol. Chin. Lang. Teach.* **2016**, *7*, 113–119.
3. Zieni, H.A. The Effect of Mobile Learning on Learner Autonomy: A Suggested Measurement Tool to Assess the Development of Learner Autonomy. *J. AsiaTEFL* **2019**, *16*, 1020–1031. [CrossRef]
4. Alghazo, S.; Zidan, M. Native-Speakerism and Professional Teacher Identity in L2 Pronunciation Learning. *Indonesian J. Appl. Linguist.* **2019**, *9*, 241–251. [CrossRef]
5. Andreou, G. The Native Speaker Ideal in Foreign Language Teaching. *Electron. J. Foreign Lang. Teach.* **2009**, *6*, 200–208.
6. Gholami, J.; Azarmi, G. An Introduction to Mobile Assisted Language Learning. *Int. J. Manag. IT Eng.* **2012**, *2*, 1–9.
7. Kukulska-Hulme, A.; Shield, L. An Overview of Mobile Assisted Language Learning: From Content Delivery to Supported Collaboration and Interaction. *ReCALL* **2008**, *20*, 271–289. [CrossRef]
8. Yang, J. Mobile Assisted Language Learning: Review of the Recent Applications of Emerging Mobile Technologies. *Engl. Lang. Teach.* **2013**, *6*, 19–25. [CrossRef]
9. Haristiani, N. AI (AI) Chatbot as Language Learning Medium: An Inquiry. *J. Phys. Conf. Ser.* **2019**, *1387*, 012020. [CrossRef]
10. Chen, X.; Zou, D.; Cheng, G.; Xie, H. AI-Assisted Personalized Language Learning: Systematic Review and Co-Citation Analysis. In Proceedings of the 2021 International Conference on Advanced Learning Technologies (ICALT), Tartu, Estonia, 12–15 July 2021; pp. 241–245. [CrossRef]
11. Ma, L. An Immersive Context Teaching Method for College English Based on AI and Machine Learning in Virtual Reality Technology. *Mob. Inf. Syst.* **2021**, *2021*, 2637439. [CrossRef]
12. Ali, Z. AI (AI): A Review of Its Uses in Language Teaching and Learning. *IOP Conf. Ser. Mater. Sci. Eng.* **2020**, *769*, 012043. [CrossRef]
13. Yanhua, Z. The Application of AI in Foreign Language Teaching. In Proceedings of the 2020 International Conference on AI and Education (ICAIE), Tianjin, China, 26–28 June 2020; pp. 40–42. [CrossRef]
14. Yang, H.; Kyun, S. The Current Research Trend of AI in Language Learning: A Systematic Empirical Literature Review from an Activity Theory Perspective. *Australas. J. Educ. Technol.* **2022**, *38*, 180–210. [CrossRef]
15. Liang, J.-C.; Hwang, G.-J.; Chen, M.-R.A.; Darmawansah, D. Roles and Research Foci of AI in Language Education: An Integrated Bibliographic Analysis and Systematic Review Approach. *Interact. Learn. Environ.* **2023**, *31*, 4270–4296. [CrossRef]
16. Nishioka, H. Learning Languages and Culture Using HiNative. *Compass* **2020**, *13*, 1–7. [CrossRef]
17. Nushi, M.; Izadi, T.; Jozagian, M. HiNative: A Global Q&A Platform to Learn Language and Culture. *Issues Trends Learn. Technol.* **2023**, *10*. [CrossRef]
18. Kasrani, I.M.; Vasoya, M.M.; Shivakumar, A.; Pei, Y. A Mobile Cloud Computing Based Independent Language Learning System with Automatic Intelligibility Assessment and Instant Feedback. In Proceedings of the International Conference on Mobile Learning, Lisbon, Portugal, 14–16 April 2018.
19. Sarnovska, N. Use of Mobile Applications in English Language Researching by Students of Higher Educational Establishments. *ΛΟΓΟΣ. Art Sci. Mind* **2019**, *8*, 105–107. [CrossRef]
20. Pavlenko, O.O.; Bondar, O.Y.; Yon, B.G.; Kwangoon, C.; Tymchenko-Mikhailidi, N.S.; Kassim, D.A. The Enhancement of a Foreign Language Competence: Free Online Resources, Mobile Apps, and Other Opportunities. *CTE Workshop Proc.* **2019**, *6*, 279–293. [CrossRef]
21. Francis, G. Grammar Teaching in Schools: What Should Teachers Be Aware Of? *Lang. Aware.* **1994**, *3*, 221–236. [CrossRef]
22. Xiang-Liu, J. The Cognitive Foundation of Imitation and Its Implication to Foreign Language Teaching. *J. Hengyang Norm. Univ.* **2006**. [CrossRef]
23. Baltzer, A. Om Imitation i Tilegnelse Af Modersmål Og Fremmedsprog. *Nord. Psykol.* **1973**, *25*, 113–121. [CrossRef]
24. Mackey, A.; Goo, J. Interaction Approach in Second Language Acquisition. In *The Encyclopedia of Applied Linguistics*; Wiley: Hoboken, NJ, USA, 2012.
25. Mackey, A. Feedback, Noticing and Instructed Second Language Learning. *Appl. Linguist.* **2006**, *27*, 405–430. [CrossRef]
26. Palalas, A. Mobile-Assisted Language Learning: Designing for Your Students. In *Second Language Teaching and Learning with Technology: Views of Emergent Researchers*; Thouësny, S., Bradley, L., Eds.; Research-publishing.net: Dublin, Ireland, 2011; pp. 71–94. [CrossRef]

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