



# Trend Analysis of 2008-2021 Mobile Assisted Chinese Language Learning Research—Taking Web of Science and CNKI Net Core Journals as Examples

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**Abstract.** In the era of information globalization, mobile devices have been integrated into our work, study and life. After the global outbreak of the new crown epidemic in 2020, mobile-assisted Chinese teaching has become an important way for the development of international Chinese education, and mobile-assisted Chinese teaching has become an important direction of academic research. This research uses the core databases Web of Science and HowNet to collect data, organizes research on mobile-assisted English learning, and conducts research and analysis on mobile-assisted Chinese teaching articles from 2008 to 2021. This research uses the literature survey method to investigate 22 literatures that meet the research needs of mobile-assisted Chinese teaching. At the same time, it analyzes the basic situation of mobile-assisted Chinese learning, the field of Chinese research, research methods and the specific role of mobile-assisted learning in the form of text description. The trend of mobile-assisted Chinese learning in recent years is expected to serve as a reference for future research on mobile-assisted Chinese learning.

**Keywords:** Mobile; Assisted Learning; Chinese Learning; Trends

## 1 Introduction

The 2008 Summer Olympics were held in Beijing, which allowed the world to see a different China and stimulated a wave of Chinese learning in the world. Facing the huge group of international students studying Chinese, mobile-assisted Chinese learning provides a solution for the popularization of international Chinese education. Especially under the influence of the new crown epidemic in 2020, offline courses such as Confucius Institutes and Confucius Classrooms in my country have been forced to be carried out online, and the traditional classroom teaching method has also been changed to cloud classroom teaching. From the current research status of mobile-assisted teaching, the research mainly focuses on English teaching, and there are few researches on assisted Chinese teaching. The evidence provided by the few mobile-assisted Chinese learning studies is not sufficient, and the research areas are not comprehensive enough. In order to make mobile assisted Chinese teaching better, based on the needs of Chinese learning and the current situation of popularization of mobile technology, this research

explores the trend and specific role of mobile assisted Chinese learning from 2008 to 2021, so as to help Chinese teachers and students better Use mobile technology to learn Chinese and improve the efficiency of Chinese learning. At the same time, it provides a reference for enriching learning forms and improving auxiliary functions for mobile-assisted Chinese teaching in the future.

This study attempts to address the following questions:

Research question 1: What mobile technologies are currently being studied to assist Chinese language learning? What are the main functions of these mobile technologies?

Research question 2: How has the research direction of mobile-assisted Chinese learning research changed in recent years? What are the main areas of research?

## **2 Literature review**

### **2.1 Computer Assisted English Learning**

Computer Aided Instruction, or Computer Aided Instruction, refers to the use of computers as the main medium for information processing, transmission and presentation, which is different from traditional teaching methods (Bloomfield, Roberts & While, 2010)<sup>1</sup>. CALL commonly used in computer-assisted language research is Computer Assisted Language Learning. Yan Li and Wang Qiuran (2016)<sup>5</sup> believe that the main advantages of current computer-assisted English learning research are as follows: First, computers play an important role in improving learners' oral English and can improve learners' pronunciation. Second, computers can promote learners' understanding of listening. Third, the computer can improve the learning efficiency of learners and improve the ability of learners to memorize English words. Zou (2013)<sup>6</sup> believes that computers can expand learners' knowledge, enrich learners' vocabulary, and help learners to read better. At the same time, it can stimulate the learner's interest in learning and promote the improvement of the learner's overall English level. However, computer-assisted English teaching also has certain shortcomings. Yan Li and Wang Qiuran (2016)<sup>5</sup> believe that computer-assisted English learning will lead to mechanization of classes, insufficient communication and cooperation between teachers and students, and it is easier to distract students.

### **2.2 Mobile-assisted English learning**

With the upgrading of computer products and the prosperity of electronic products, the concept of mobile learning has gradually become popular among the people. Mobile learning is Mobile Learning, referred to as M-Learning. The research of Ozdamli and Cavus (2011)<sup>3</sup> pointed out that mobile assisted language learning (MALL) will become the preferred learning method in the future because of its five advantages: First, foreign language learners can quickly lock learning goals and learning content. Two, it provides an interactive social learning experience. Third, it supports seamless learning between contexts in formal and informal settings. Fourth, it promotes cooperative learning. Fifth, it provides personalized learning to meet different learning needs and styles. At the same time, Viberg and Grönlund (2012)<sup>4</sup> believe that the advantages of mobile-

assisted English learning are mainly concentrated in: first, mobile-assisted English learning can help students to memorize words well and expand learners' vocabulary. Second, learners can use mobile to assist in the imitation and practice of spoken English dialogue, thereby improving the accuracy of English pronunciation. Fouz-González (2017)<sup>2</sup> believes that mobile technology assists English learning, which can help learners choose appropriate learning activities and truly use mobile technology to improve their English proficiency. English to inspire learners. However, mobile-assisted English teaching also has certain limitations: Viberg and Grönlund (2012)<sup>4</sup> believe that the information on the Internet is mixed, and students need to spend a lot of time to distinguish. Second: The learning tutorials provided in some learning apps are less professional. Third, most of the researches on mobile-assisted English learning are small-scale and short-term empirical studies, lacking the accumulation of experience.

### **3 Survey results and analysis**

#### **3.1 Data collection**

In order to improve the reliability and accuracy of the research results, the research data selected in this paper are mainly from two well-known databases with high reliability, Web of Science and HowNet, and the research on mobile device-assisted Chinese in the 13 years from 2008 to 2021. Comprehensive analysis of study papers. Based on the previous understanding of the concept of mobile-assisted learning and its keywords, this paper divides the search keywords into three categories for retrieval: first, to retrieve relevant articles about mobile devices; second, to retrieve key words related to learning, learning methods, and learning approaches Third, search for keywords related to Chinese language and its learning elements. After excluding those who did not provide the sample size and inference statistics, or the measured effect size did not meet the inference results, a total of 22 eligible papers were selected to study the trend of mobile device-assisted Chinese learning.

#### **3.2 Statistics**

According to statistics, there were 5 articles published in 2018, 3 articles in 2017, 6 articles in 2016, 3 articles in 2015, 3 articles in 2021, 2020, 2014, 2013 and In 2009, there were 1 article each, and in 2012, 2011, 2010, and 2008, there were no relevant articles that met the research conditions. There were a total of 22 articles that met the research on mobile-assisted Chinese learning. Among them, the learners are mainly Chinese learners aged 19 to 25, followed by Chinese learners aged 7 to 12, Chinese learners aged 13 to 15, and the least number of Chinese learners over 25 years old. Chinese language learners between the ages of 16 and 18 were not included in the study. According to the statistics of the nationalities of the learners, there are 689 people in Asia, accounting for 67.4%, followed by 176 people in North America, accounting for 17.2%, 83 people in Africa, accounting for 8.1%, and 74 people in Europe, accounting for 7.2%. The statistics of auxiliary contents show that there are 3 researches on auxiliary Chinese character learning, 4 researches on oral language learning, 2 researches on

writing learning, and 7 articles on auxiliary comprehensive Chinese learning. In addition, there are a total of 6 articles about the development of mobile-assisted Chinese learning software. Statistics on the research methods of each study show that there are 8 articles using comprehensive research, 9 articles using quantitative research, and 5 articles using qualitative research. Finally, the statistics of the auxiliary tools are carried out, and it is concluded that there are 10 researches on App-assisted Chinese learning, 7 researches on WeChat-assisted Chinese learning, and 2 Ipad-assisted Chinese learning research. There are 1 research on the use of mobile phones and laptops alone to assist Chinese learning.

### 3.3 Data Analysis

#### **Basic situation of mobile-assisted Chinese learning.**

According to statistics, from 2008 to 2012, there were only relevant studies in 2009. From 2013 to 2018, the research showed a fluctuating upward trend. The most research was in 2016. After 2018, it showed a downward trend, and the new crown epidemic broke out in 2020. Since then, there has been no significant increase in research in this area. Secondly, the number of Chinese language learners showed a rapid downward trend from elementary school to high school, a sharp increase from high school to university and research institutes, and a stable trend from university to society. Analyzing the reasons for the fluctuation of the number of learners in different age groups, the author believes that the reason for the sudden decrease and the sudden increase in the fluctuation of the age group of Chinese learners from primary school age to college age group is due to the learning pressure and needs of learners of all age groups. The stable stage from university to society is due to the fact that learners have solid cultural foundation and social experience at this stage, and their learning goals are mostly out of interest in traditional Chinese culture and love for language. Finally, according to the analysis of the countries and regions that use mobile technology to assist Chinese learning, we can see that Asia has the most Chinese learners, followed by North America, Africa, and then Europe. The reason for the analysis of the most Asian learners is that Asian countries are closest to China, which is more convenient for the dissemination of Chinese. Because of the close economic and trade relations between China and the United States, the high usage rate of Chinese is also the reason why there are more learners. In addition, there are relatively few Chinese learners in Africa and Chinese learners in Europe, mostly because Chinese is not an official language of the European Union, and its usage is seldom, and the intricate language system in Africa makes the dissemination of Chinese more difficult.

#### **Specific areas of mobile-assisted Chinese learning.**

According to statistics, mobile-assisted Chinese learning has the most research on the development of Chinese learning apps, followed by research in the field of comprehensive Chinese, research in the field of spoken language, research in the field of Chinese characters, and the field of writing with the least research. At the same time, it is found that the development of Chinese learning apps is the first field related to mobile-assisted

Chinese learning, followed by the research of mobile-assisted comprehensive Chinese, and finally the simultaneous research of Chinese characters, spoken language, and writing. The statistical results show that the research on mobile-assisted Chinese learning in 2016 is no longer generalized as comprehensive Chinese, but more specific and targeted. And the research trend of mobile-assisted writing has its stability and independence, which is not affected by the overall trend of mobile-assisted Chinese learning research.

### **Research methods of mobile-assisted Chinese learning.**

According to statistical research methods, the research methods are mainly based on comprehensive research combining quantitative and qualitative research, followed by quantitative research and qualitative research. Since 2013, the comprehensive research method has mainly used the comparison and experimental observation method of pre-experiment, post-experiment, and delayed tests. . Combining grades with changes in learners' subjective perceptions makes the findings of the study more comprehensive. The main research direction extends from the learners' learning process, learning performance, to the learners' learning interest, learning concentration, learning strategies and learning methods. Since 2016, the quantitative research method has mainly used a single questionnaire survey to conduct research on learners' views, attitudes and basic situation of mobile-assisted Chinese learning. In subsequent researches, although the research direction is roughly the same, the questionnaire survey research techniques have expanded. While qualitative research appeared in 2009, it has been developed since 2014. It mainly combines Chinese learning theory with Chinese learning materials and other literature materials, and conducts research by dialectical method and hypothesis method. In the subsequent research, although the research literature is diverse, the main theories are similar. The research direction mainly focuses on the learning steps of learners, the learning content and the required learning auxiliary functions. Most of them use logical reasoning, which meets the needs of the theory, but the effectiveness is still to be tested.

### **Tools and Functions of Mobile-Assisted Chinese Teaching.**

According to the statistical knowledge of mobile-assisted Chinese learning technology, the research on mobile-assisted Chinese learning App is the earliest. Then came iPads, single phones and WeChat, and laptop-assisted research. Similarly, Chinese learning apps are the most widely used mobile technology. Then followed by WeChat, Ipad and the least used single mobile phone and laptop. The specific reason is that the app has powerful functions for assisting Chinese learning. The main functions are learning by topic, learning by field, and providing exercises and tests. The functions of game learning and network speed matching are rarely used. Secondly, the functions of WeChat to assist Chinese learning mainly focus on group discussion, text information and language information and other functions, and less use of public accounts, location sharing and learning resource sharing functions. Among them, in order to make the topic of discussion more comprehensive, the researchers combined the location sharing of WeChat with the topic discussion of spoken language, but the learners thought that the

function of location sharing violated their privacy, so they used it less. In addition, the functions of using Ipad are mainly focused on data search and dictionary functions. The functions of using the phone are mainly focused on recording. Finally, the functionality of using the laptop is mainly focused on screen recording as well as online platforms.

## 4 Conclusions

Through the research and analysis of related articles on mobile-assisted Chinese learning in recent years, it can be found that mobile-assisted Chinese learning has gradually changed from teacher-centered to learner-centered, from teachers' teaching management, supervision and sharing of single teaching materials to learners. Self-learning, self-testing and peer-peer peer review encourage learners to actively participate in learning. Both researches on mobile-assisted English learning and Chinese-assisted learning are based on empirical research, and both put forward the theory of context immersion learning. learning materials. At the same time, mobile assisted Chinese learning has improved the limitations of small scale and short time in previous assisted English learning research. However, in the research on auxiliary functions, no specific improvement problems have been proposed like the research on assisted English learning, and the research questions are lacking in pertinence. Therefore, combing these studies will not only help us understand the current situation and trend of mobile-assisted Chinese learning, but also find the current problems and deficiencies, which can provide a certain direction for future research on the development of mobile-assisted Chinese learning.

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