Research on the Application of Mobile Learning in College English Listening and Speaking Teaching

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Abstract: *With the rapid development of information technology, mobile learning, as an innovative teaching model, is particularly suitable for college English listening and speaking teaching. This study first outlines the theoretical foundation of mobile learning and informal learning theory, and then analyzes in depth the specific implementation methods of mobile learning in English listening and speaking teaching, including the selection of teaching resources, planning of teaching content, setting of teaching objectives, and the application of mobile platforms such as WeChat in promoting teacher-student interaction. Through interviews with teachers and students to collect data, the study found that mobile learning significantly improves students' English listening and speaking abilities, especially in enhancing their participation and learning motivation. Finally, based on the research findings, this article proposes a series of teaching suggestions aimed at guiding future teaching practices, especially using mobile learning tools to improve the effectiveness of English listening and speaking teaching in higher education environments.*

Keywords: *mobile learning; College English; Listening and speaking teaching; application*

1. Introduction

In the current field of language teaching in higher education in China, there are a series of and problems that have attracted widespread attention from the academic community. Especially in terms of English listening and speaking abilities, students generally exhibit weak practical application abilities, especially in underdeveloped areas in the west where the phenomenon of "mute English" and "deaf English" is still prominent.

In this context, the "Education Informatization 2.0 Action Plan" released by the Ministry of Education in 2018 emphasizes the deep integration of information technology and intelligent throughout the entire education process, with the goal of promoting the reform of teaching methods, optimization of management, and improvement of performance. This provides a new direction for educators, that is, from the traditional "chalk+blackboard" teaching model to actively explore the new model of "Internet plus+teaching", and use information technology to comprehensively assist education and teaching activities.

Therefore, the purpose of this study is to explore how to effectively promote the "Internet plus English" teaching model, design and implement the listening and speaking teaching of college English based on mobile learning, so as to cultivate versatile talents that meet the market demand. At the same time, this study will also focus on the challenges and shortcomings in the implementation process, and explore possible improvement strategies and countermeasures. These contents constitute the core research content of this topic.

2. Core concepts and theoretical foundations

2.1 Mobile learning

O'Malley et al. (2005), Alexander (2006), Kukulska Hulme&Traler (2009), El Hussein&Cronje (2010), and Wang et al. (2012) generally believe that mobile learning refers to the learning activities learners use mobile devices to engage in anytime, anywhere through wireless networks. This definition emphasizes the temporal and spatial flexibility of learning and the portability of technology.

In the academic field of China, scholars usually define the concept of "mobile learning" by it with traditional educational models. For example, scholars such as Ren Haifeng define mobile

as a new type of learning method that utilizes wireless mobile devices to obtain information. Its core is to enable learners to master various knowledge contents in a diverse way at any time and place. Wang Jianhua et al. emphasized in their work "Theory and Practice of Mobile Learning" that the primary purpose of mobile learning is to combine with traditional educational forms and play an auxiliary role in traditional teaching. However, scholars such as Bai Jun have pointed out that mobile learning presents mobility in terms of form, learners, learning resources, and learning environment, adopting digital learning methods, thus forming a sharp contrast with traditional learning models. These viewpoints collectively emphasize the potential and importance of mobile learning in promoting knowledge acquisition and innovative educational models.

In summary, mobile learning should have the following elements: 1. learners; 2. Mobile terminal devices (computers, PADs, only mobile phones, etc.); 3. Learning content; 4. Network connection (Wi Fi, 3G, 4G or 5G network); 5. Unlimited time and space (anytime, anywhere). Therefore, we can generalize mobile learning as a learning method that learners can use computers, PADs or smart phones to achieve their own goals on the Internet, anytime and anywhere.

2.2 Informal Learning Theory

Informal learning is an autonomous and flexible learning mode. Under this framework, learners learn based on their personal needs and interests, without being limited by specific places and times.

Since the concept of informal learning first appeared in the United States in the 1950s, there has been a sharp increase in related research in the past two decades. Experts in the field of adult education in the United States, such as Victoria J. Marshick, Karen E. Watkins, and Volpe, have summarized the characteristics of informal learning, including its close connection with daily life, triggering by external or internal psychological factors, the implicit and random nature of the learning process, and its close association with other learning methods.

The widespread popularity of smartphones and the internet provides new platforms for informal learning. Smartphones are powerful and easy to carry, making them perfect for mobile learning. Whether on the bus, subway, or waiting in line, people listening to English songs and reading articles on their phones are engaging in informal learning, although they may not be aware of this. In this context, learning is more autonomous and the content absorbed is more in line with the learner's interests. The development of mobile devices and advances in network technology not only provide hardware support for informal learning, but also open up new channels for mobile learning. The theory of informal learning provides a solid theoretical foundation for the implementation and development of mobile learning.

3. Mobile learning applications and college English listening and speaking teaching design

3.1 Teaching resources

This study selected the WeChat platform commonly used by college students.

In today's society, the usage rate of smartphones among college students is constantly increasing. Most students will purchase a smartphone when they enter school. At the same time, the coverage of 3G and 4G networks is expanding, but the tariff is continuously decreasing. Campus wireless network hotspots have also become an important way for college students to connect to the network. Students have basically reached the condition that everyone is using WeChat and can use WeChat at all times. According to a survey conducted on undergraduate students from a university in Shanghai in 2022, it was found that 99 06% of people are using WeChat. Learning can occur in classrooms, dormitories, libraries, and even during walking.[1] By following the WeChat public account for course learning, students can quickly participate in the learning of the course.

In classroom teaching, students can receive learning materials sent by teachers and complete classroom interactions with teachers through just one mobile phone and an app, without investing funds to purchase laptops. At the same time, the low-cost feature of WeChat public platform construction and use (with almost zero initial investment and only payment for traffic fees for later use) allows WeChat to be repeatedly explored and continuously promoted in teaching applications.

3.2 Teaching content

At C University, the teaching materials used in the English course are the Second Edition series of New Horizon College English, covering four levels from beginner to advanced. This series of textbooks comprehensively includes modules such as "Reading and Writing Tutorial", "Listening and Speaking Tutorial", "Quick Reading", "Extensive Reading Tutorial", and "Comprehensive Training", and is equipped with various media forms such as paper textbooks (Textbook), CDs (CD-ROM), and online courses (Online Course).

Especially in the "Listening and Speaking Tutorial" section, the textbook aims to effectively enhance students' English listening and speaking skills by simulating real-life scenarios, using authentic language, and diverse practice methods.[2] During the teaching process, emphasis should be placed on the use of multimedia technology to create rich audio-visual learning materials and an autonomous learning environment for students. In addition, teaching strategies focus on the close integration of listening and speaking skills training, advocating for complementary guidance from teachers in the classroom and autonomous learning from students outside of class, as well as the integration of autonomous learning and cooperative learning. The structure of each level in the textbook is generally consistent, divided into units, each unit revolves around a central theme, including multiple parts such as "Warming Up", "Speaking", "Listening and Speaking", "Homework", etc.

3.3 Teaching objectives

To design effective mobile learning English listening and speaking classes, the first step is to shift from a "teaching" centered teaching structure to a "learning centered" teaching structure. The position of the five elements (effective learning, teachers, students, mobile learning, textbooks) in the teaching structure should be as follows: centered on the occurrence of effective learning; Students are the main body of effective learning; Teachers act as intermediaries and leaders, transforming from authoritative educators to guides, organizers, facilitators, and consultants in the teaching process; Mobile learning is not only a means to help teachers transmit knowledge, but also a tool to help students implement knowledge meaning construction; Textbooks are not only the source of knowledge, but also an effective carrier for students to construct the meaning of their knowledge. The teaching objectives designed by this research institute are shown in Table 1.

Table 1 Adhering to the Teaching Objectives of "Effective Learning Centered"

	knowledge	ability		Emotional goals	English listening and speaking application scenarios
Listening Teaching Objectives	language word Knowledge, vocabulary language piece	Basic	Can obtain keywords and understand simple conversations in daily life and simple instructions in professional scenarios	Establishing a correct worldview, outlook on life, and values Understanding the cultural differences between the East and the West	Ordering meals, checking in at hotels, pointing the way, visiting scenic spots and historical sites, boarding, traditional Chinese and Western festivals, popular tourist countries, Chinese and Western etiquette, travel advice, customs and habits, daily life, leisure and entertainment, etc
		Higher	Able to understand the arrangements in professional settings And conversation		
Oral teaching objectives	Language knowledge, function, sociolinguistic knowledge	Basic	Can use body language to assist in daily life session		Self introduction, greeting, ordering, hotel check-in, discussing food, weather, clothing, civilized etiquette, community, safety, tourism, transportation, asking for directions, booking, Chinese and foreign festivals, customs and traditions, introducing scenic spots and historical sites, providing travel advice
		Higher	Can handle daily life and related professions Have a simple conversation about the topic		
			Able to solve communication doubts through questioning		

3.4 The specific application of WeChat in teaching

During the teaching process, teachers and students will engage in different activities on WeChat. In addition to basic text message sending, voice message sending, and friend circle sharing and evaluation, they should also play their own unique roles.[3] For example, teachers should focus more on resource publishing and activity management, while students should practice and browse resources more; At the same time, different teaching strategies are adopted according to the different teaching contents, such as establishing groups for dialogue exercises, publishing listening exercises for students to practice

outside of class, organizing online English corners, etc. The specific activities are as follows:

3.4.1 Student activities

Sending messages: including text messages and voice messages, is the main way to communicate with teachers and classmates, and interaction with public platforms is also achieved through sending messages.

Receiving messages: including text messages, voice messages, and graphic messages. The received content generally includes information sent by teachers and classmates, links to learning resources, and push messages from public platforms.

Add friends: add personal friends to facilitate communication by scanning QR code, adding mobile contacts, adding QQ friends, radar and friends, etc. Follow the official account by searching the official account account and scanning the QR code. Create/Invite to WeChat group: Conduct classroom discussions, dialogue exercises, and other activities according to the activity requirements and personnel allocation proposed by the teacher. Participate in online English corner activities. The face-to-face group building function can be used for quick implementation.

Sharing learning materials: Share learning materials in social media or groups through a webpage or browser that supports WeChat sharing function.

3.4.2 Teacher activities

Receiving and sending messages: including text messages and voice messages, is the main way to communicate with students and can provide timely answers to problems encountered by students.

Public platform message push: Based on teaching arrangements, push various resources required for teaching, such as reading materials, film and television resources, listening test questions, etc.

Public platform message reception: The main reception content includes voice messages sent by students participating in classroom activities, homework sent by students, etc.

Create/Invite to WeChat groups: Use groups to organize classroom activities, conduct online English corner activities, and monitor the activity process.

Sharing learning materials: Share learning materials in social media or groups through a webpage or browser that supports WeChat sharing function, reply to student comments, and create a learning atmosphere.

Public Platform Module Management: Manage modules based on secondary development of the public platform, make reasonable use of module functions, and use plugin functions to support the development of different content teaching.

4. Mobile learning applications and the implementation of college English listening and speaking teaching

4.1 Research object and implementation process

This study was conducted in two new classes of non English majors at C University in 2022, with a total of 105 students, including 37 males and 68 females. Except for one student from Jiangsu, all other students came from Gansu, with an average score of 95.7 in the college English exam.

This study lasted for one semester from September 2022 to January 2023, with a total of 18 teaching weeks. According to the teaching schedule, each class in the college English course had four class hours per week, with one class hour allocated for teaching the "Listening and Speaking Tutorial". During the teaching process of listening and speaking, WeChat is used intermittently, encouraging students to communicate through WeChat. During the learning process, student behavior is observed, and interviews with teachers and students are conducted at the end of the semester. Oral and listening tests are organized before and after the semester.[4]

Based on the current situation of students' English oral communication and listening, and in combination with the relevant requirements in the Curriculum Requirements, three teaching activities were designed, using a step-by-step approach to guide students to gradually become accustomed to using WeChat to participate in classroom learning,as shown in Table 2-3.

Table 2 Process of Oral Teaching Activities

Activity content	Teacher activities	Student activities
self-introduction (Only at the beginning of the semester) The first class will be conducted)	Students are required to prepare a self introduction and send it to the public platform via WeChat. Open the public platform backend management using a computer in the classroom Page, play the student's self introduction.	According to the teacher's requirements, send a voice message to the WeChat public platform to introduce oneself.
Pre class speech	Divide groups and assign Oral Report tasks to each group, along with relevant requirements. Open the backend management page of the public platform using a computer in class, play voice messages sent by students, provide feedback, and correct errors.	According to the teacher's requirements, prepare a speech based on the textbook content. After preparation, send a voice message to the public platform for the speech. Reflect on one's own shortcomings and make improvements based on the teacher's feedback.
Dialogue practice	Assign dialogue practice tasks to students based on the different requirements of the Speaking section in each chapter. Flexibly utilize WeChat voice messages and group functions to assist in dialogue practice based on the characteristics of the event.	Prepare dialogues according to the textbook and teacher requirements. Establish groups for dialogue practice or use WeChat to send voice messages for dialogue practice to public platforms.

Table 3 Process of Listening Teaching Activities

Activity content	Teacher activities	Student activities
In class testing	1. Before class, input the list of questions and answers required for this lesson into the testing system, and set the testing time, usually set as class time. At the same time, prepare the audio files required for listening. Push test keywords to students, such as "Urntl test". 2. Play listening files in class and ask students to use the testing system to answer questions. 3. Use the testing module backend to view the answer scores and provide explanations.	Send test keywords to public platforms in the classroom, obtain test addresses, listen while answering questions, and check your grades after answering questions to understand your learning status. Listen to the teacher's explanation and reflect.
Extracurricular exercises	After class, select some good materials and push them to students. If it is a listening exercise question, such as the Homework section of the listening exercise, input the table of contents and answers into the testing system, and add listening audio files to the testing system. Push exercise keywords to students, such as "Unitl exercises". Use the testing module backend to check whether students are practicing and supervise students who are not enthusiastic.	Choose to listen to materials pushed by teachers during leisure time, or send exercise keywords to public platforms for listening practice.

4.2 Result analysis

4.2.1 Analysis of Student Interview Results

During a semester of course study, through interviews with some students in the experimental class, this study aims to gain a deeper understanding of their views on using WeChat as an auxiliary tool for college English listening and speaking classes, including their attitude, acceptance level, and frequency of use. The interview mainly focuses on the following two questions: Firstly, students believe that WeChat has advantages and specific manifestations in college English listening and speaking courses; Secondly, students face challenges and improvement needs in the WeChat based learning process.[5]

Most surveyed students believe that the introduction of WeChat as a daily communication tool is in line with the communication habits of young people and can effectively enhance their enthusiasm and interest in learning. Especially for freshmen who have just undergone the college entrance examination, this teaching method is quite innovative. Secondly, students expressed that the use of WeChat has enhanced their courage to speak English, especially in high school where there is a lack of opportunities for oral communication. WeChat provides a relatively stress free environment, allowing students to gradually overcome the fear of speaking from simple words to complete sentences.

In addition, some students mentioned that they did not pay attention to pronunciation training during high school due to academic pressure, and instead used WeChat for listening and speaking practice, giving them the opportunity to correct pronunciation errors by repeatedly listening to their own phonetic information and comparing with standard pronunciation. In some cases, teachers may also provide specific guidance through WeChat.

However, regarding the problems encountered during the learning process of WeChat based college English listening and speaking courses, the main problems include easy distraction (especially during

extracurricular learning, easily distracted by WeChat group chats, social media updates, etc.) and traffic costs (especially for students with average economic conditions). In addition, the students also put forward some suggestions, such as improving the listening test module, enhancing the stability of the public platform, and enriching learning resources, especially adding interesting and practical content.

4.2.2 Analysis of Teacher Interview Results

In the process of in-depth exploration of the application of WeChat in college English listening and speaking teaching, this study conducted targeted interviews with teachers, mainly focusing on the advantages and limitations of WeChat in listening and speaking teaching. Teachers generally agree on the multiple advantages of WeChat in teaching: firstly, the use of WeChat significantly saves time in listening and speaking teaching, improves teaching efficiency, and enables more teaching content and activities to be covered in the same amount of time; Secondly, WeChat provides a more diverse basis for student evaluation and teaching evaluation. For example, through listening test scores and materials generated in oral teaching, students' listening and speaking abilities can be more intuitively and concretely displayed; Finally, the use of WeChat has also improved teachers' ability to monitor the classroom, reduced irrelevant remarks and distractions among students in the classroom, and made their attention more focused on learning.

However, teachers have also pointed out some shortcomings in the use of WeChat, similar to student feedback, that is, it is easy to distract students during the use process. For example, some students may chat on WeChat during a listening test and plagiarize their desk mate's answers after the listening session ends. In addition, considering the current "mobile phone away from the classroom" activities being promoted by many universities to prevent students from using their phones in the classroom and distracting their attention, teachers are concerned that long-term use of WeChat may lead to students developing bad habits of watching and playing with their phones during class.

5. Summary and Reflection

5.1 Research Summary

Through a systematic study of the application of WeChat in college English listening and speaking teaching, this study reveals its positive impact on promoting students' English oral communication and listening comprehension abilities, while also pointing out its limitations. Based on in-depth reflection on teaching practice and detailed analysis of experimental data, this study draws the following conclusions:

Research has found that the introduction of WeChat has changed the traditional teaching mode of college English listening and speaking, which is in line with the guiding principles proposed in the Curriculum Requirements. The use of WeChat has promoted students to engage in mobile learning, enhanced their interest in English courses, improved teaching efficiency, and made more effective use of their spare time.

Research has shown that WeChat effectively promotes communication between teachers, students, and students. Teachers can push learning materials and provide guidance to students through WeChat, thereby gaining a clearer understanding of their learning difficulties; Students can share learning materials and insights through WeChat.

The study also shows that WeChat's support for college English oral teaching is mainly reflected in three aspects: helping students reduce the embarrassment of face-to-face communication, alleviate anxiety when speaking English, and correct pronunciation; Enhance teachers' effective monitoring of the classroom and improve teaching efficiency; And to preserve and utilize generative materials generated during students' oral practice, providing a basis for evaluation and teaching evaluation. For listening teaching, WeChat provides a convenient platform to facilitate communication both inside and outside the classroom, facilitate the organization of listening exercises and tests, and provide intuitive data for teachers to evaluate students' listening comprehension abilities.

5.2 Teaching suggestions

Through a comprehensive analysis of the application of WeChat in college English listening and speaking teaching, this study reveals its advantages and limitations in teaching, and proposes the following teaching strategy suggestions based on this:

(1)Optimize teaching design. Teaching design is a key element that affects course effectiveness. When using mobile teaching tools, teaching activities should be customized according to the characteristics of course content, the functions of mobile platforms should be utilized reasonably, and appropriate secondary development should be carried out to meet teaching needs. For example, in college English listening and speaking classes, emphasis should be placed on utilizing functions related to phonetic communication, and designing activities centered around communication, practice, and testing; In reading and writing courses, emphasis should be placed on activities such as discussion, work sharing, and peer evaluation, with more use of functions such as social media, public platform push notifications, and WeChat groups. At the same time, individual differences among students should be fully considered, and targeted teaching strategies should be adopted to achieve a balance between teaching content and individual needs of learners.

(2)Provide timely guidance to students. During the learning process, students may hold a skeptical or resistant attitude towards new technologies. At this time, teachers should provide timely explanations and guidance to help students gradually accept new teaching tools. In group activities, if students feel confused or disoriented, teachers should provide timely guidance to ensure the effective progress of the activity. In addition, when students may use WeChat for non learning purposes, teachers should timely remind and guide them to ensure that students can effectively use mobile platforms for learning in addition to leisure and entertainment.

6. Conclusion

In summary, the application of WeChat as a mobile learning tool in college English listening and speaking teaching has shown significant advantages, but also revealed some shortcomings. The introduction of WeChat not only changes the traditional teaching mode, promotes students' interest in English learning, improves learning efficiency, but also strengthens interaction and communication between teachers, students, and students through its unique social functions. However, its shortcomings in regulating student usage status and potential distracting effects on student attention cannot be ignored. Therefore, in future teaching practices, teachers need to optimize teaching design, fully leverage the advantages of mobile learning tools, and also pay attention to guiding students to use these tools reasonably, ensuring the effectiveness of teaching activities and maximizing student learning outcomes. Overall, mobile learning plays an increasingly important role in college English education, and the rational use of these tools will have a positive impact on improving teaching quality and learning outcomes.

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