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## Construction of mobile education method and college English autonomous learning mode based on the network

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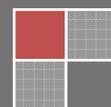
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### ABSTRACT

Under the circumstance of modern network technology, mobile education as a kind of teaching method has been practical applied in the college English autonomous learning mode. In order to achieve the effective combination of mobile education methods and college English autonomous learning mode, it is necessary to build the three-dimensional teaching mode, creating a multi-dimensional English learning environment for the students, and providing technical guarantee and the implementation environment. In this learning mode, students use the mobile communication technology to learn English anytime and anywhere, and input the rich language knowledge, create or simulate the real learning scenarios, making full use of fragmented time for effective learning. This study takes the modern network technology environment and mobile education theory as the starting point, and the improvement of college students' comprehensive ability to use English as the purpose, and adopts questionnaire survey method, comparative analytic method, the literature method, quantitative analysis and other research methods, in order to define the concept of mobile education clearly under the network environment and analyze the research status of mobile education. Under the network environment, the mobile education as a kind of teaching method applied in college English autonomous learning has been studied. In addition, this study discusses how to construct college English autonomous learning mode with the help of mobile education, in order to stimulate students' English autonomous learning ability, improving their comprehensive ability of English. The results is good for the construction of mobile education and college English autonomous learning mode, and is beneficial to college English teaching reform and innovation.

### KEYWORDS

Mobile education; College English; Autonomous learning.



## INTRODUCTION

Mobile education, also called mobile learning, is a form of education that relying on mobile communication technology, network technology and multimedia technology, and in which the teachers and learners implement the teaching activities through mobile education system formed by mobile communication network, computer network, mobile teaching servers and various wireless and mobile devices (such as mobile phone, PDA, etc.). Firstly, it is digital learning based on some portable mobile devices; secondly, mobile education realizes the education content and education service information transmission depending on mobile communication technology; finally, the interactive of teaching and learning activities in mobile education is realized through mobile computing technology. Compare with traditional digital learning based on fixed desktop and cable network transmission, mobile education adopts mobile devices and wireless mobile communication network transmission, in which more emphasis has been put on technical solution which is different from other education technology and new features generated by the application of new technology such as the flexibility of mobile learning, situational correlation and etc.

### THE CURRENT RESEARCH STATUS OF MOBILE EDUCATION

At present, mobile education, as a new way of education, has been an important research subject of global mobile operators and mobile equipment suppliers, and some education institutions, and has also attracted the attention of experts and scholars at home and abroad to study. According to the survey of the literature, the present study of English mobile education has gradually become a hot topic. Abroad, Berkeley multimedia research center in the University of California first formally found the mobile education research group in 2000, discussing the application of mobile education in the virtual university. British Ultrallab laboratory started the study of "M-Learning" in 2001, and the project mainly aimed to solve illiteracy problem existing in the European youth society, the problem of lack of continuing education and unfair problems induced by lack of information technology. Irish Desmond-Keegan was responsible for "From E-learning to M-learning", studying the learning mode for next generation vocational education and training, and the evolutionary outline of the cable virtual learning environment to the wireless virtual learning environment had been drawn.

Domestically, Zhu Qi (2009) studied the design principles and characteristics of mobile teaching system, taking the English teaching support system design based on a handheld device as an example, built a mobile teaching system model, thus realizing the real mobile teaching; Xie Yanhui (2011), on the basis of the status and existing problems of mobile learning at home and abroad, developed interactive English learning system based on WAP, and also discussed the key technical problems involved in the process of system implementation. Wu Feng (2011), according to the characteristics and advantages of mobile learning, analyzed the feasibility of integrating college English teaching and mobile learning, and expounded the English mobile learning mode and strategies based on 3G technology; Rong Hui, Chen Zhenting (2012) carried out the study of mobile education mode based on mobile platform; Zhang Na (2013) carried out the study of college English mobile education mode; Zhao Chunrong (2014) studied the development and application of "Comprehensive English" mobile learning resources.

The above research has greatly promoted the development of the mobile education. This paper combines the English mobile education with the traditional teaching, and constructs the second class of college English autonomous learning with the help of smart phones. The "traditional teaching+ mobile learning" digital, three-dimensional teaching mode has been constructed to create a multi-dimensional English learning environment for students, thus promoting students' enthusiasm, initiative of mobile learning.

### IMPLEMENTATION PROGRAM

#### The selection of study object

This teaching research has selected four classes which were taught by teachers in the research group from four majors in the class of 2012 including grade marketing, civil engineering, food engineering and electronic information to conduct empirical study. Considering family economic conditions and other factors, the teaching model was only implemented in part of students, not forcing all students to buy a smartphone. Students who have smartphone and willing to learn English with the help of smart phone were selected as experimental group, the rest of students in the same class who not participate in the teaching experiment as reference group. Finally, 116 students from the above four classes had been selected as experimental group, and 128 students as control group.

As for the students in the experimental group, the English mobile education and traditional teaching have been integrated to make students under teachers' supervision, guidance and help choose learning contents with the help of smart phone according to their own characteristics outside class and carry out autonomous learning, thus improving the teaching quality and enhancing students' autonomous learning ability. Finally, achieve the ultimate goal of improving students' comprehensive ability to use English.

From 116 students having computers and mobile phones and other mobile devices and the condition of use in the experimental classes (see TABLE 1), the frequency of students using the computer or mobile device is very high. At the same time, the experimental class students who often use computer to study accounting for 98.3%, and 87.1% of the students often use their phones to go online, download learning materials.

In addition, experimental schools had several free computer rooms, and it's also very convenient for students who didn't have a computer using the public computer room to study, which had provided a guarantee for the smooth implementation of the teaching experiment.

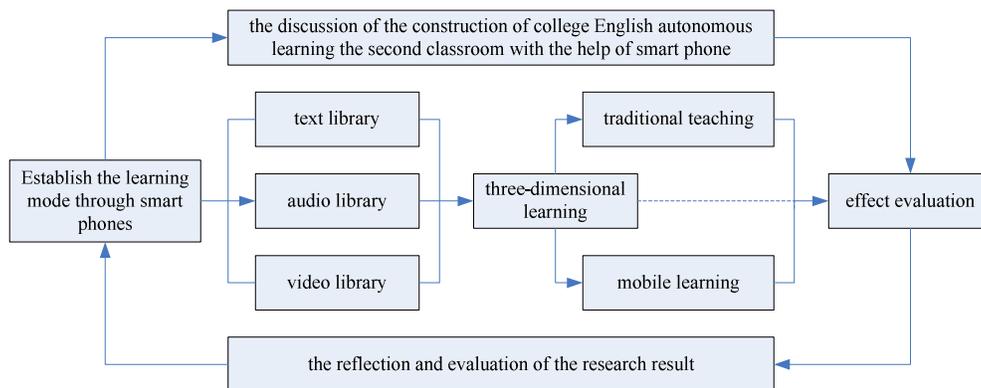
**TABLE 1 : The investigation of experimental class students using mobile devices for learning frequency**

The use of mobile devices	Never /rarely (number)	Frequency of use	
		sometimes(number)	frequently(number)
To collect material, finish the homework with a computer	0%(0)	1.7%(2)	98.3%(114)
Using the mobile internet, download learning material	4.3%(5)	8.6%(10)	87.1%(101)

**Construct college English autonomous learning mode with the help of the smart phone**

(1) Reform the existing teaching mode, and construct the "traditional teaching+ mobile learning" stereo classroom, and create a new, digital, three-dimensional English learning model for students.

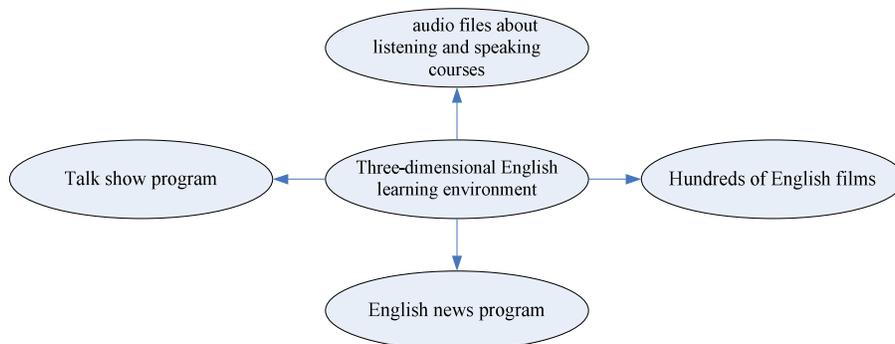
In this teaching reform, besides learning English in class, and learning with the help of network autonomous learning platform, the teacher should ask student to learn English anytime and anywhere by using smart phones, and build a "traditional teaching+ mobile learning" three-dimensional classroom for students, making the traditional classroom teaching, network autonomous learning and mobile learning combine with each other. So as to give full play to students' subjective initiative in learning, truly reflecting the "student-centered" education teaching thought. The construct college English autonomous learning the second classroom teaching mode diagram with the help of smart phone is shown as Figure 1.



**Figure 1 : Construct college English autonomous learning the second classroom teaching mode diagram with the help of smart phone**

(2) To provide rich English audio-visual, reading material for students, and easy for English mobile learning.

Teaching resources library shall be established in order to supply students with more autonomous learning materials that can be studied by using the smart phone: several sets of audio files about listening and speaking courses, hundreds of English movies, news audio files and video files such as VOA, BBC and CNN and etc., language conversation video files such as let's talk in English, Studio Classroom, Peng Menghui advanced English, thousands of electronic English classics, etc., rich visual-audio and reading materials, in order to promote students real interest in learning English, thus having huge learning motivation and autonomous learning consciousness to improve their comprehensive ability of English. The colorful three-dimensional interactive English learning environment is shown as Figure 2.



**Figure 2 : Colorful three-dimensional interactive English learning environment**

(3) To strengthen the English mobile monitoring management of autonomous learning, and implement guiding type teaching.

Researchers mainly adopted guiding type teaching method to monitor and guide students' English mobile learning.

Guiding type teaching mainly refers to the student learning with the help of smart phone under the guidance of teachers. The researchers adopted the methods of two instructions (that is: autonomous learning strategy instruction before class and online FAQ instruction) and two inspections (that is: face-to-face teaching inspection and online class inspection) to ensure students' learning effect.

(4) To strengthen the teachers' monitoring and guidance on students' English learning by using smart phones

Teachers should spend a certain amount of time every week to timely learn students' English mobile learning content, the performance of learn task and problems existing in the study and so on by using the way of questionnaire survey and interviews. And the process of students' English autonomous learning by using smart phone shall be monitored in order to learn about students' learning attitude, emotion, learning strategies and language knowledge and so on. Then the teacher made some suggestions for the next step in the students learning, thus the teaching content, progress and method have been adjusted effectively.

(5) To strengthen students' meta-cognitive learning strategies, and guide students to improve the ability of autonomous learning

To strengthen students' meta-cognitive learning strategies, and guide the student to carry on self-planning, self-adjusting, self-assessment, etc. Students were asked to write a learning journal in order to improve the English autonomous learning ability. Learning journal is a kind of learning activity that the learners record their autonomous learning experience with the help of smart phone and also the reflection about that and express their feelings. It can be seen as a written dialogue between teachers and students. From it, the teacher can know what students' think about, and adjust the teaching activities, and the setting learning tasks will be closer to the needs of students.

If the demand of students' learning be satisfied, students' interest in learning will be improved. Interest is the most effective impetus to learn a foreign language, and it makes the learners become more need to learn, more willing to learn, and form the learning motivation which is a virtuous cycle of learning. Having the real interest in learning English, the student will produce the deep motivation of learning English, and then produce a great learning motivation and autonomous learning consciousness. The three factors including learning interest, learning awareness and learning strategies penetrate with each other, relate with each other and circulate constantly, forming an organic whole (see Figure 3).

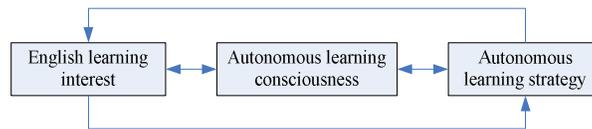


Figure 3 : The relationship between the three factors influencing English autonomous learning initiative

**THE TEACHING EXPERIMENTAL RESULTS AND ANALYSIS**

**Analysis of questionnaire and interview results**

(1) Learn the satisfaction state of students in the experimental class to the implementation of the "traditional teaching+ mobile teaching" teaching mode.

After the teaching experiment, students in the experimental group has been carried on the questionnaire survey to learn the satisfaction state of using smart phone to construct college English autonomous learning the second class and the implementation of the "traditional teaching+ mobile teaching" teaching mode. The questionnaire is in the form of Likert scale, very satisfied=5, satisfied=4, generally=3, not satisfied=2, not satisfied at all=1. The mean and standard deviation of questionnaire of students in the experimental group are as follows respectively:

**TABLE 2 : The satisfaction survey result of the implementation of the "traditional teaching + mobile teaching" teaching mode**

Are you satisfied with the teaching mode “traditional teaching + mobile teaching” teaching mode	experimental class
1. Are you satisfied with mobile learning assisting English teaching	4.54(0.742)
2. Are you satisfied with teaching materials for mobile learning provided by the teachers	4.86(0.686)
3. Teachers check mobile learning effect in the classroom, Are you satisfied with it	4.20(0.795)
4. Are you satisfied with the teacher's autonomous learning strategy guidance	4.62(0.695)
5. Are you satisfied with the teacher feedback on your English mobile learning journal	4.48(0.607)
6. Are you satisfied with the teacher's online FAQ guidance	4.56(0.605)
7. Are you satisfied with inspection system which is under the supervision of teacher	4.23(0.767)
8. Are you satisfied with new college English teaching evaluation system which is the combination of formative and summative	4.42(0.616)

The questionnaire survey results show that the students in experimental group are satisfied with the implementation of the “traditional teaching+ mobile teaching” teaching model. Through the interviews of some teachers and students, the researchers also learn that this teaching reform is well received by the teachers and students.

(2) Compare the difference of autonomous learning ability of students in experimental group and control group

After the teaching experiment, the experimental group and control group has been carried on the questionnaire survey, the questions including the learning motivation, learning methods, learning strategies, learning responsibility, learning confidence and so on are designed in the questionnaire to see the student understanding of using smartphone to autonomous learning and the differences of attitude. The mean and standard deviation of the experimental group and control group questionnaire are respectively as follows:

**TABLE 3 : Survey results of the understanding and attitudes of autonomous learning**

The understanding and attitudes of autonomous learning	Reference group	Experimental group
1. the smart phone is of great help to English learning	3.51(0.873)	4.64(0.746)
2. The smart phone is very necessary for improving the English comprehensive ability when carrying out extracurricular autonomous learning.	3.77(0.865)	4.86(0.687)
3. The final results of learning depends on yourself, rather than the teachers or other people	3.64(0.912)	4.30(0.796)
4. a variety of methods shall be used to cultivate interest in learning English	3.77(0.833)	4.52(0.695)
5. Appropriate learning tasks should be arranged to improve English according to your condition	3.73(0.691)	4.47(0.608)
6. I have confidence to improve English comprehensive ability through the efforts	3.11(0.826)	4.28(0.607)
7. master the corresponding learning strategies is of great help to English learning	3.42(0.864)	4.22(0.767)
8. the use of network resources is of great help to English learning	3.71(0.817)	4.41(0.616)
9. forming the habit of learning English anytime and anywhere will be great help for the improvement of English ability	3.99(0.651)	4.78(0.571)

The survey results show that after the implementation of teaching reform experiment which is the construction of college English autonomous learning the second class, the teachers implant autonomous learning strategies, meta-cognitive strategies to students, effectively promoting the cultivation of students' autonomous learning ability. And the experimental group understanding and attitudes of autonomous learning is obviously better than that of control group.

### The test results analysis

According to the final English test scores of the experimental group and control group, the spss13.0 has been used to data statistics analysis, the following data and results are concluded. The English test scores of experimental group and reference group is shown as TABLE 4.

**TABLE 4 : The English test scores of experimental group and reference group**

Examination	Class	Average score(full score 100)	Standard deviation
English test	Experimental group	88.278	4.051
	Reference group	79.973	6.752

As can be seen from TABLE 4, English test score of experimental group is obviously higher than that of control group, suggesting that the implementation of the teaching reform experiment is beneficial to improve students' English comprehensive ability. And the standard deviation of experimental group is obviously less than the control group, and this shows that the difference of test scores of the students in experimental group is less than that of students in the control group.

### The interview results of the teachers and students

Through the interviews, researchers has learned that this teaching reform is well received by the teachers and students, and of which more than 90% of the students welcome the teaching reform, and actively cooperate with it. They agree that:

(1)This teaching reform helps the teachers to play the leading role as instructor, assister and supervisor in the second classroom teaching.

In the process of using smartphone to build the second class of college English autonomous learning and the implementation of "traditional teaching+ mobile learning" teaching mode. The teachers organize students to carry on autonomous learning by using the smartphone, and monitor the process of students' autonomous learning, in order to adjust and help students to autonomous learning. What's more, through learning the individual, individually guided education can

be implemented. Teachers are the counselor, promoters and resource provider of the students' autonomous learning. By monitoring, the teacher can timely learn the students' language ability, learning attitude, learning progress, emotional factors and so on. So the personalized advice can be proposed to make each link of teaching smoothly implemented.

(2) The teaching reform, to a large extent, has stimulated the students' interest in learning English, improving their English learning motivation.

Teachers make full use of network resources, according to students' learning needs, learning interest, knowledge structure, the actual level of English, and provide various, intuitive and three-dimensional language materials for the students in order to meet their needs, and the language materials featuring are diverse, lively and interesting, from the shallower to the deeper, step by step, meeting the needs of the students' English learning directly. Teachers encourage students to use smartphone to English learning, and also encourage them to make full use of the teaching resources to input the English in various aspects, realizing the diversification of English learning resources. And the students have agreed that the abundant teaching materials inspire their interest in learning English and improve their English learning motivation.

## CONCLUSION

At present, China has promoted education informationization vigorously, guided by the modern education concept, supported by the modern information technology, the exploration and research of education teaching mode has been carried out in order to cultivate high-quality talents with innovative ability. Under this background, as for English education, mobile education, as a kind of new mode of education, has also become a supplement of traditional education, promoting the development of personalized, autonomous learning of the students. It helps to the construction and implementation of the smartphone and college English autonomous learning mode based on the network, and makes students use communication technology to learn English anytime and anywhere, input rich knowledge of language, create or simulate real learning situation. Making full use of fragmented time in moving for effective learning is good for the reform and innovation in the class and also the transformation of the students' learning mode, and is conducive to the cultivation of the students' learning motivation, learning interest, confidence. What's more, it can promote more language input and output, training students' language learning skills, strategy, etc., and improving students' comprehensive ability to use English.

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