Online and Offline Mixed English Teaching Practice Based on Multimedia Technology

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Abstract

As the international economic and cultural exchanges become more frequent, fresh graduates in my country need to face a more complex social environment, and they also need to master higher professional standards and higher quality. At the same time, the society corresponds to the graduates' English proficiency puts forward higher requirements.This article defines and summarizes the related concepts of college English teaching, mobile learning research and other topics, and on this basis, proposes the main research direction of this article, that is, the integration of online and offline mixed teaching practice.This article aims to study the practice of online and offline English teaching based on multimedia technology, and summarize the research ideas, methods and innovation points. This article analyzes several key models of the existing mixed teaching model design. Based on the principles of functionality and reality, and based on the ADDIE model, an online and offline hybrid English teaching model was designed. This article analyzes the current situation and various problems of English teaching through experimental research and other methods, Analyzed the advantages and disadvantages of mobile tools and online education in teaching, and completed the integrated design of mobile applications and English teaching resources. Teaching in this situation, at the same time, choose students from two classes in the same branch of a university in this city as the experimental objects, choose one class as the experimental class, adopt a mixed teaching mode, and use software such as WeChat and Chaoxing as auxiliary platforms , The other class is the control class, which uses ordinary teaching methods. After half a semester of specific practice, the two classes will be assessed in English. The experimental results show that the process of blended English education stimulates students' interest in learning, improves learning motivation and enthusiasm, increases students' confidence and patience in English, as well as the frequency and behavior of teacher-student interaction.

Keywords

Autonomous Learning; Blended Teaching Mode; Network Interaction; Online and Offline.

1. Introduction

With the rapid development of information technology, people's learning requirements and learning methods continue to improve, and educational concepts based on various information environments are constantly emerging and innovating. In such an educational culture, the combination of traditional teaching methods and information technology has become urgent.

Many scholars have conducted research on the practice of online and offline English teaching based on multimedia technology, and achieved good results. For example, the 2017 Horizon Report pointed out that in the next one to two years [1], blended learning and teaching will become the main form, and online learning will be used to make up for the learning resources, learning time, and learning methods of traditional face-to-face classrooms. But teachers encounter many problems when developing blended teaching. Taking the course "Modern

Educational Technology" of a normal college as an example, they use big data to analyze the advantages and disadvantages of this teaching model, and try to propose effective improvements. The plan is to construct the SPOC teaching model in accordance with the framework design of front-end analysis, teaching resource design and development, teaching activity design and teaching evaluation, and to carry out the practical application of the teaching model based on the Superstar Erya teaching platform. It has a certain value for improving the teaching quality of colleges and universities and cultivating independent and innovative talents [2-3].

Blended teaching refers to a teaching mode that combines traditional classroom teaching and online learning under the guidance of blended learning theory. It combines the advantages of the two teaching modes, which not only retains the face-to-face teaching and communication between teachers and students in traditional classroom teaching, but also meets the individual needs of students for independent learning. According to the demand for talents in today's society, the process of talent training needs to be more autonomous and humanized, and a variety of teaching methods need to be used to meet this personalized demand [4].

2. Online and Offline Hybrid Teaching Mode

2.1. Several Main Models of Online and Offline Mixed Teaching

(1) Khan's octagonal frame model

Badurl Khan summarized a very comprehensive octagonal frame model on how to design effective combined learning courses. The eight elements he set are: teaching, technology, page design, evaluation, management resources, support, morality and system. All factors in this model are interrelated [5-6].

(2) Model of Clayton Christensen Institute

"Blended Learning: Promoting Educational Revolution with Disruptive Innovation" is a book by the Clayton Christensen Institute that comprehensively introduces the concept, design, implementation and success of cognitive learning. The institute divides mixed learning into four main modes through many years of case studies: menu mode, conversion mode, flexible mode and enhanced virtual mode [7].

(3) ASSURE model

The ASSURE model is an instructional design model based on the cognitive learning theory proposed by Heinich et al. Each letter has its meaning: A-Analyze student; S-state goal; S-choose inside; U-use inside; R-require student participation. The model focuses on how to select and use media in the classroom environment. The model is student-centered and clearly tells teachers what to do and how to do it.

(4) ADDIE model

The ADDIE model is a model of education system design. It divides teaching into five stages, which are the meanings of the five letters: Analysis —— Analysis, Design —— Design, Development —— Development, Implementation —— Implementation Evaluation -- Evaluate. The first step is to conduct a series of analysis of teaching behavior, students, environment and other goals. The second step is to plan the curriculum for the upcoming educational activities; the third step is to implement the corresponding framework and curriculum evaluation. Design method: text content writing and page design; the fourth step is the implementation of teaching; the fifth step is the evaluation of the completed mixed teaching and student learning effects [8-9].

2.2. Design of Mixed Teaching Mode Based on ADDIE Model

(1) Analysis stage

Before designing specific curriculum teaching methods, it is necessary to analyze the basic factors that affect blended teaching. First, we must understand the learning characteristics of students and the teaching habits of teachers, clarify the various needs of teachers and students, and then clarify the teaching goals, analyze the teaching content and reform the teaching environment in detail, and plan teaching activities on this basis [10].

(2) Design stage

The goal of teaching is what changes will happen to students and what learning outcomes will be achieved through blended teaching. The teaching goal guides the direction of the entire teaching activity, and its completion will also be tested by the planning and practice of educational experiments [11-12].

(3) Development stage

The development stage refers to the selection of appropriate teaching materials, the production of corresponding online resources, and preparation of online and offline teaching content required for teaching.

(4) Implementation stage

The implementation stage mainly refers to the realization of teaching goals by means of appropriate means and teaching content in the teaching process. The school in this article is based on the MOOC mixed learning platform, which defines a teaching platform for the school. In addition, the WeChat platform serves as an auxiliary platform to adapt to the learning and social habits of students.

(5) Evaluation stage

Evaluation is a means to define the concept of teaching planning and teaching application, and it also plays an opposite role in all stages of education model design. The evaluation of this study includes formative evaluation and overall evaluation. The evaluation objects include not only students, but also teachers. In summary, the design of the combined teaching model of this research includes five stages from analysis to evaluation. Each stage has different tasks, but these five stages are developing in a common direction. Evaluation is not the end of teaching, but the feedback and appropriate results of each link.

3. The Concrete Implementation Mode of the English Mixed Teaching Mode of Multimedia Technology in Teaching

3.1. Teaching Preparation Stage

(1) Determination of experimental class and control class

In order to verify the effectiveness and feasibility of the mixed teaching model designed in this research, this article adopts teaching practice and most of the class methods to study the impact of new teaching methods on student performance development and non-intellectual factors. Teachers, educators and students analyze and test the quantitative and qualitative model problems.

(2) Construction of a blended learning environment

In this study, the online learning of the combined teaching method is mainly carried out through the MOOC teaching platform, and at the same time, it is supported by the WeChat platform, each with its own advantages and disadvantages. Create a WeChat group for the English class of the experimental class and invite all students to participate. The online learning in this research is mainly based on the MOOC online learning platform and WeChat platform, and the offline teaching is mainly based on classroom or digital classroom. Therefore, complete the required online and offline environments before blending teaching.

3.2.   Teaching Evaluation Stage

In this teaching, students' online assessments can be reflected through the Internet. After class online assessments are online tests, while in class, students' oral and PPT reports are recorded as offline results. The above "average performance" is an evaluation of the course teaching. In the course teaching evaluation of the whole semester, online scores and offline scores each account for 50%. Online results mainly come from online exams, online time, courses and course resources; offline results mainly come from normal performance and final exam results. By evaluating students' pre-class online learning, classroom performance, online interaction after class, and final exams, not only can students be encouraged to actively study in all aspects, but it can also facilitate teachers to monitor students' online situations and handle students' learning throughout the process. Reflect in the teaching in time.

3.3.   Multimedia formula Retrieval

(1) The key technology of high-dimensional index based on multimedia

High-dimensional indexing technology can be roughly divided into two categories: vector space retrieval (Spatial Access Method) and metric space retrieval (Metric Access Method). Meet the following three properties:

$$
\begin{aligned}
&d(x,y) = d(y,x)(x \neq y) \\
&d(x,y) \geq 0 \\
&d(x,y) + d(y,z) \geq d(x,z)
\end{aligned}
\tag{1}
$$

Where M=(U,d), where U is the feature vector domain and d is the distance function.

(2) Sift's interest detection based on multimedia

The Sift algorithm introduces a new scale space, namely the Difference of Gaussians (DOG, Difference of Gaussians) scale space. The DOG is generated by the convolution of the Gaussian difference kernel of adjacent scales and the image. It is defined as follows:

$$
\begin{aligned}
&D(x,y,\sigma) = (G(x,y,k\sigma) - G(x,y,\sigma)*I(x,y)) = L(x,y,k\sigma) - L(x,y,\sigma) \\
&L(x,y,\sigma) = G(x,y,\sigma)*I(x,y) \\
&G(x,y,k\sigma) - G(x,y,\sigma) \approx (k-1)\sigma^2 \nabla^2 G
\end{aligned}
\tag{2}
$$

4. Implementation Results of the Mixed Teaching Model

4.1.   Comparative Analysis of Student Performance Before and After Implementation

Since the students' English proficiency is in the first or second level of the test, before starting to prepare for the experiment, first select two classes with similar English scores and various aspects. Choose one of the classes as the experimental class, using a mixed teaching mode; the other class as the control class, using the normal teaching mode. After half a semester of teaching, the two classes were assessed in English, and specific conclusions were obtained by analyzing the English scores of the assessment. The specific assessment score data of the two classes are shown in Table 1.

Table 1. Comparison of practical results

class	Experimental class	Control class
Averagegrade before experiment	50.96	54.34
Average post-experiment	52.22	60.45
Pass rate before experiment (%)	22.41	25.39
Pass rate after experiment (%)	30.22	50.67
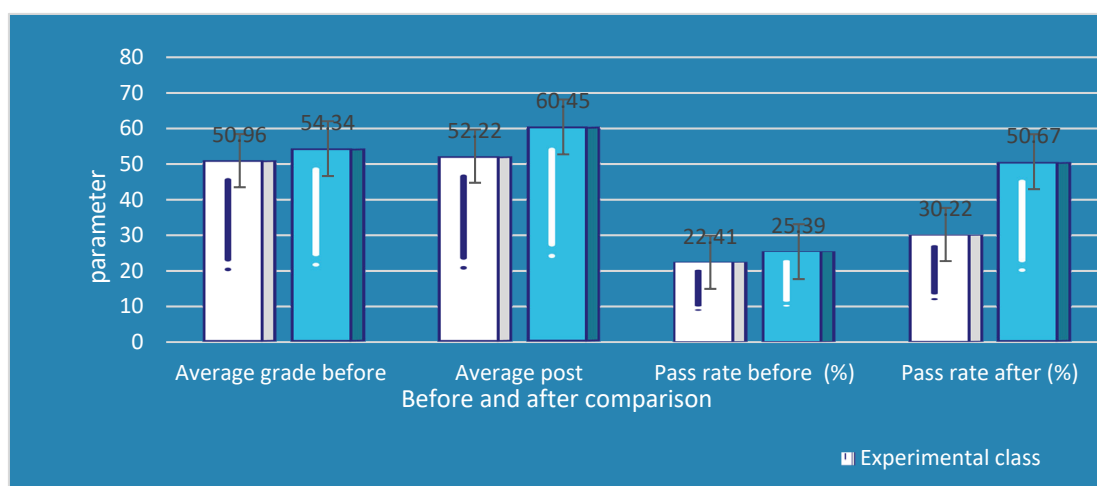
Figure 1. Practical results data graph

As can be seen from Figure 1, the difference between the experimental class and the control class before the experiment is not obvious, the score difference is 4 points, but after the experiment, the experimental class score is significantly higher than the control class, the score difference reaches about 8 points. The results of the experimental class also changed significantly before and after the experiment. After the experiment, the results increased by about 7 points, while the results of the control class only increased by about 3 points after the experiment. Regarding the passing rate, the experimental class increased by 20% after the experiment, and the control class only increased by 3%. In contrast, the experimental class's passing rate increased more significantly. Therefore, we conclude that the blended teaching model helps to improve student performance, and this model has a positive effect on students' learning effects.

As shown in Table 2, the initiative and enthusiasm of the students in the two classes are also different under the condition that the mixed teaching model is developed in Experimental class. We can get the data about the two classes' English learning enthusiasm by observing how active the students are in class and the proportion of the students' interest in the course.

Table 2. Student English Learning Interest Table

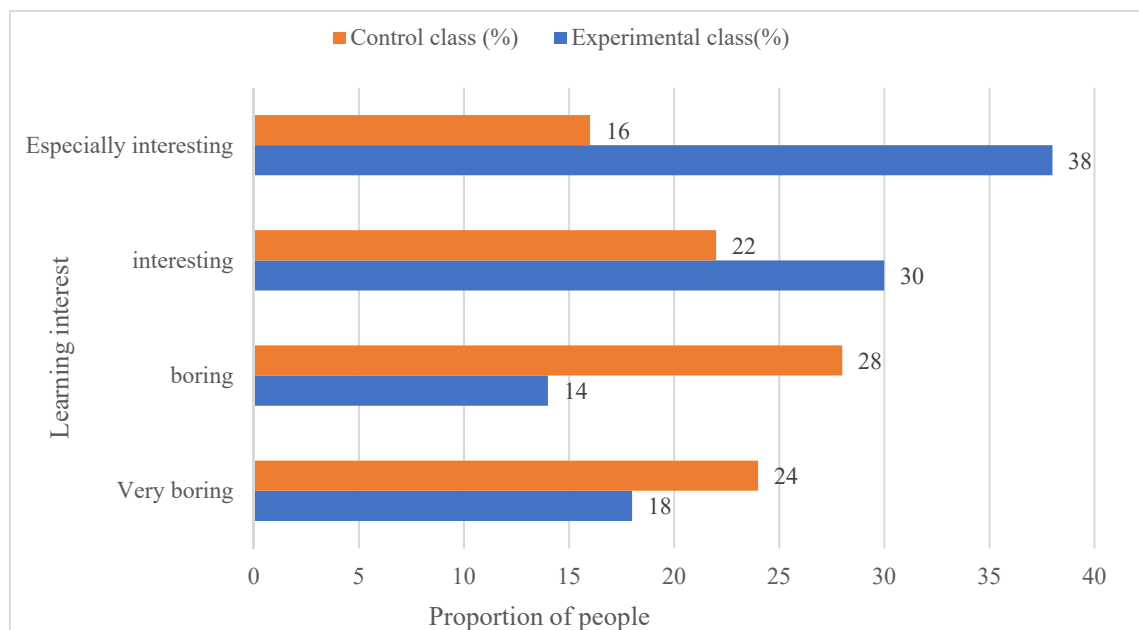| Classroom atmosphere	Experimental class (%)	Control class (%)
Very boring	18	24
boring	14	28
interesting	30	22
Especially interesting	38	16

Figure 2. Class English Learning Interest Map

As shown in figure 2, the interest in learning English varies between the two classes, with 68% of the students in the experimental class saying the process of learning English was very interesting, and they would like to continue their study in this way. But in the control class, 52 percent of the students said the class was so boring that they didn't want to continue studying.

5. Conclusion

This paper studies the theory and application of the general teaching model through a large amount of literature, and combines the questionnaire to analyze the students' learning situation of participating in the experiment, and designs a general teaching model suitable for students. In order to verify the effect of the model, a half semester of practice was carried out. In order to verify the effect of the model, a half semester of practice was carried out. Through the analysis and comparison of the control class and the experimental class, it proves that this new teaching method has a great effect on the improvement of English teaching efficiency. Some problems were also found in and solved these problems. Up to now, the research has gradually achieved some results, laying a solid foundation for further research in the future.

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