A School-based Empirical Study on Blended Teaching Mode of College English in Agricultural Universities

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Abstract: The members of the research group adopted the blended teaching mode of college English in the experimental class (47 students in Class A3A4 of Economics and Management, Grade 2020), while the traditional teaching mode was adopted in the control class (41students in Class A3A4 of Agronomy, Grade 2020). After two years of practice, no matter the students' final grades or CET-4 grades, the students in the experimental class are obviously better than those in the control class. In addition, according to the statistics of the students participating in various national competitions for college students, the students in the experimental class are also obviously better than those in the control class in terms of the number of winners and the level of winners.This fully shows that the application of the blended teaching mode of "classroom teaching + online learning" in college English teaching in agricultural universities is effective, which promotes the improvement of students' comprehensive application ability of English language.

1. Introduction

The College English Teaching Guide formulated and issued in 2017 clearly points out that "teaching means are the tools, media or equipment used in teaching and learning. In the Internet era, computer network technology has become an indispensable modern teaching means for foreign language teaching". With the advent of the information age, more and more information technology and intelligent teaching platforms are gradually applied to teaching. Students can use mobile phones or mobile terminal devices for online learning, so that learning is no longer limited by time and space, and learning efficiency is improved. Jilin Agricultural University carries out blended teaching practice in College English teaching relying on online learning platforms and resources such as Superstar Learning Link, Composition Network, Longman Interactive English and Word Master, changes the traditional college English teaching mode, adopts the teaching mode of "classroom teaching + online learning", and optimizes optimizes the new school-based curriculum structure in college English, improves the classroom teaching system of college English, and develops students' learning towards active learning, autonomous learning, and personalized learning, thereby improving the quality of college English teaching.

2. The Theoretical Basis of Blended Teaching Mode of College English

Constructivism emphasizes the "student-centered" educational thought. Since the 1990s, with the rapid development of information technology marked by multimedia and network communication, constructivists have put forward the theory of blending learning, which holds that blending learning is the combination or blending of schools based on network technology. In order to achieve a certain teaching goal, it is the combination of various teaching methods and teaching technologies to achieve the most ideal teaching effect, and the combination of teaching technology and specific teaching classroom (Driscoll, 2005; Garrison, 2008 2015)[1,2,3]. Professor He Kekang (2004)[4], a famous educational technology expert in China, believes that blended teaching is to combine the

advantages of traditional learning methods with the advantages of E-learning (digital and network learning), that is to say, teachers should not only play a leading role in guiding, enlightening and monitoring the teaching process. At the same time, it should fully reflect the initiative, enthusiasm and creativity of students as the main body of the learning process.He Kekang's educational thought of "combination of leading and subject" is consistent with Blending Learning in the world (2005)[5].

3. Analysis of Blended Teaching Mode of College English

3.1. The Penetration of Online Courses

In the blended teaching mode of college English, online course is a very important link, and its development is closely related to the development of Internet technology and education informatization. Online courses are mainly based on the network platform to realize information sharing and meet students' different learning needs by providing network resources (Wang Xizheng, 2021)[6].The development of online courses only needs the help of network tools, which is not limited by time and space, and can better meet the learning needs of students. Therefore, online courses are welcomed by students.

3.2. The Combination of Offline Courses

College English blended teaching mode is a combination of online teaching and offline teaching. Through online courses, students can increase more time and space for autonomous learning, while offline courses and online courses complement each other. Teachers can give students relevant answers according to their learning progress, problems and puzzles encountered in online courses, give students more space for interactive communication, and better realize the combination of online and offline teaching (Kou Xiangying, 2020)[7]. College English offline courses are mostly carried out in the flipped classroom mode, in the process of classroom learning, as the main body of the classroom, students' participation has been significantly improved, and the effect of course learning has been improved.

4. Experimental Design

4.1. Teaching Mode

Based on the platform of College English Basic Experimental Center and the research of experts and scholars at home and abroad on mobile learning and blended learning, this paper integrates the advantages of mobile language learning and classroom teaching, and puts forward the blended teaching mode of college English based on mobile technology in our university, as shown in Figure 1. The two research questions raised by the research group are: Does the blended teaching mode of college English help to improve the teaching effect? How much does the blended teaching mode of college English have an impact on students' English achievement?
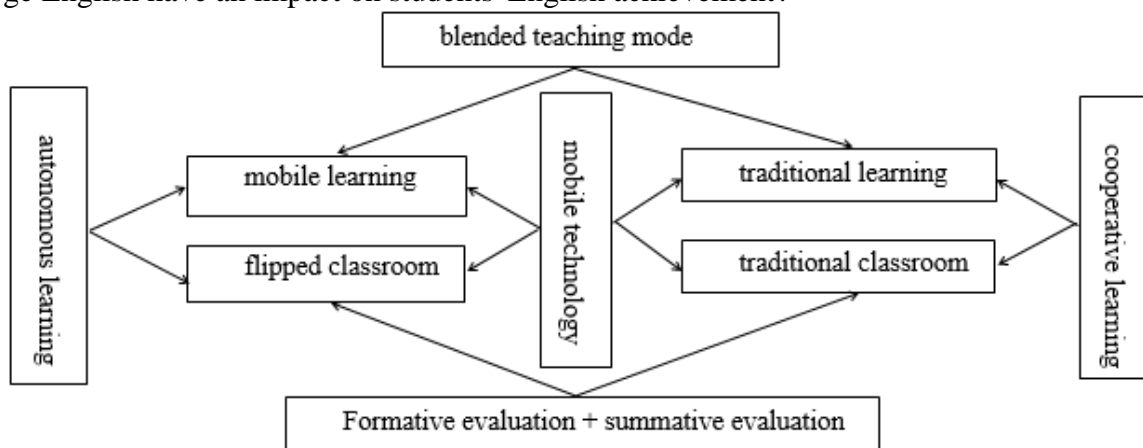

Figure 1.Blended English Teaching Mode in Jilin Agricultural University

4.2. Experimental Procedures

4.2.1. Experimental Subjects

The research group randomly selected two experimental classes and two control classes from Class A, Grade 2020 (undergraduate) of Jilin Agricultural University for two years (four semesters), including 47 students in the experimental class (Class A3A4 of Economics and Management) and 41students in the control class (Class A3A4 of Agronomy).

4.2.2. Making a Thorough Investigation

Before the experiment, a survey was made of the students' scores in the National Entrance English Test (NMET), and an English proficiency test was given to the students, including an English comprehensive ability test and a vocabulary test. The English comprehensive ability test was based on the Shanghai Jiaotong University Freshmen English Grading Test (75%), and an oral test was added (25%) to determine whether there was a significant difference in English proficiency between the experimental class and the control class at the beginning of the experiment.Whether it is comparable, that is, how reliable the experiment is.

4.2.3. Experimental Content and Implementation Process

The experimental class adopts the blended teaching mode of "classroom teaching + online learning". Classroom teaching is mainly to complete reading and writing learning tasks through setting up a study group in class with 4 hours a week, an average of 40 hours per semester, a total of 4 semesters. Online autonomous learning is mainly based on the training of listening, speaking and writing, supplemented by the content of comprehensive ability test. Students use the Word Master to train text words, use the online learning resources of Longman Interactive English to train listening and speaking, use the composition correction network to train writing and translation, use the learning platform to discuss and read in class, and conduct periodic tests on the learning platform.For online learning tasks, each experimental class has three face-to-face tutoring sessions per semester, mainly adopting task-based teaching mode and collaborative learning mode.The implementation process is mainly divided into three aspects:

Before class: the teacher assigns the online learning tasks, homework and assessment requirements of the course on the English learning platform, and clarifies the objectives and requirements.Before class, students learn independently the learning content created by teachers in advance, and carry out practical training in advance to prepare for learning in class, and further deepen and consolidate in class to provide guarantee for the smooth implementation of the classroom.

In class: The class includes classroom teaching and online teaching. During each class implementation, you can log in to the English learning platform using either multimedia or mobile terminals. Students can perform teaching tasks on the platform, and teachers can view their learning progress and grades, understand their completion and mastery of the learning tasks. Teachers can summarize the learning points of this lesson, extend the learning tasks, and assign after-school learning tasks.

After class: Students should reflect and provide feedback on their learning situation, and further complete relevant learning tasks. Teachers and students exchange opinions, timely adjust and improve the shortcomings of offline and online teaching to ensure the effective implementation of blended teaching mode in college English (Leng Yufen, 2021)[8].

Evaluation includes group self-evaluation, inter group evaluation, and teacher evaluation.

The control class did not adopt a blended teaching model that combines "classroom teaching+online learning", nor did it establish a learning group. Instead, it used traditional teaching methods to teach and complete teaching tasks.

At the end of each semester, the oral and comprehensive abilities of students are evaluated in the experimental and control classes. At the same time, after the end of the fourth semester, compare the participation of students in the experimental class and the control class in various competitions

(such as the National College English Competition, the "National English Speech/Writing/Reading Competition" of FLTRP • ETIC Cup) and the CET4 for two years (4 semesters).

Finally, compare the assessment results of the experimental class and the control class, and conduct statistical analysis on the obtained data (Zhao Xicang, 2018)[9].

5. Results and Discussion

5.1. Investigation and Examination

The English foundation of students is very important for their later English learning. Generally speaking, if students have a good foundation at the time of enrollment, their English learning progress in the later stage will also be faster. Conversely, if students have a poor English foundation at the time of enrollment, their English learning progress in the later stage will also be slower. If the students in the experimental class and the control class have a significant difference in their foundation at enrollment, they will lose comparability and cannot guarantee the reliability of this experiment (Yan Hongcai, Song Yinqiu, 2010)[10]. In response to this issue, we conducted a survey and analysis of the data of the experimental and control class students when they first enrolled (see Table 1).

Table 1 Comparison of basic information between experimental class and control class Students

Class	Number of students	College Entrance Examination	English proficiency test	English vocabulary test
		English scores	English scores	Amount of vocabulary
Experimental class	47	102.26a	68,22a	2028a
Control class	41	101.89a	67.87a	2010a

Note: The same letters in the same column indicate no difference at the 0.05 level

From Table 1, it can be seen that there is no significant difference in the college entrance examination English scores between the experimental class and the control class; there is no significant difference in the entrance English proficiency test scores; and there is no significant difference in the entrance vocabulary. This indicates that there is no significant difference in the basic situation of students in the experimental class and the control class at enrollment. Therefore, it has comparability and guaranteed reliability.

5.2. English Achievement

From Table 2, it can be seen that the achievement of the experimental class students are significantly higher than those of the control class students each semester: for example, the average English speaking score of the experimental class students in the first semester is 10 points higher than that of the control class students; In the second semester, the average score of English speaking in the experimental class was 14 points higher than that in the control class; In the third semester, the average score of English speaking in the experimental class was 12 points higher than that in the control class; As for the average English speaking score in the fourth semester, the experimental class students scored 10 points higher than the control class students. The average final English score of the experimental class students in the first semester is 11 points higher than that of the control class students; The average final English score of the experimental class students in the second semester is 12 points higher than that of the control class students; The average final English score of the experimental class students in the third semester is 13 points higher than that of the control class students; The average final English score of the experimental class students in the fourth semester is 14 points higher than that of the control class students; The total passing rate of CET-4 in the experimental class is 21% higher than that of the control class during the four semesters.

Table 2 Comparison of average English scores between experimental and control class students over four semesters

Class	Number of students	Scores of oral English in each term				Scores of English final examination (Listening, reading, writing, translating)				Passing rate of CET4
		term 1	term 2	term 3	term 4	term 1	term 2	term 3	term 4	
Experimental class	47	72a	79a	82a	79a	76a	78a	81a	85a	77a
Control class	41	62b	65b	70b	69b	65b	66b	68b	71b	56b

Note: Different lowercase letters in the same column indicate differences at the 0.05 level

From the significant improvement in the experimental class students' achievement (average scores of oral English, average scores of English final examination) and the passing rate of CET-4 compared to the control class students, it can be seen that the blended teaching model of "classroom teaching+online learning" is effective and promotes the improvement of students' English language abilities.

In the past two years, students from the experimental class and the control class have participated in the 2021 "FLTRP·ETIC Cup" National English Writing Competition. One student from the experimental class won a special prize, while no one from the control class won; Students participating in the 2021 "FLTRP·ETIC Cup" National English Reading Competition, one person in the experimental class won the first prize, one person won the second prize, and one person won the third prize, while no one in the control class won the prize; Students participating in the 2021 National College English Competition, one participant in the experimental class receiving a special prize, four participants receiving a third prize, and one participant in the control class receiving a third prize. From another perspective, it also demonstrates that the blended teaching model combining "classroom teaching+online learning" is effective in the application of college English teaching in agricultural universities, promoting the improvement of students' comprehensive English language application ability.

6. Evaluation of the application of blended teaching mode in college English teaching

During the teaching process, teachers adopt a blended teaching mode, providing students with more diverse learning resources and channels, expanding their English learning from classroom to extracurricular, prolonging the time and space for English learning, and more beneficially cultivating students' habits of independent learning and ability to learn independently.

However, through practical research on blended teaching models, the author also found that there are some problems in implementing blended teaching models in agricultural universities. Firstly, students in agricultural universities generally have a weak foundation in English, weak self-directed learning abilities, and a lack of exploratory spirit in learning. This can lead to some students not taking the tasks assigned by teachers seriously, not being distracted, and not truly achieving self-directed learning, making it difficult to achieve the expected learning results. In agricultural colleges, college English teachers need to undertake a lot of teaching tasks. If blended teaching is carried out, more energy needs to be invested in selecting online learning resources, building courses, monitoring students' online learning situation, providing timely feedback on students' homework and tests, etc. This increases the workload of teachers and brings challenges to their daily work.

7. Conclusion

Under the background of the all-media era, the blended teaching mode, which gives full play to the advantages of online teaching platform and combines with traditional classroom teaching, not only conforms to the direction of college English teaching reform, realizes the reform and

innovation of college English classroom, but also is a beneficial exploration of college English teaching mode.

Acknowledgements

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