

The Research on the Blended Teaching Effects of College English and Its Influencing Factors

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Abstract: In the information age, the blended teaching has been widely accepted and applied in colleges and universities. Based on the theory of educational ecology and the outcome-based education (OBE), this paper tries to take college English as an example to implement this teaching mode based on SPOC. Blended teaching design was proposed and a case teaching design was illustrated in detail to show how to put the blended teaching theory into practise. This research employed experimental class to check the effectiveness of the blended teaching. Three tests were carried out during the teaching experiment, they are pre-test, middle test and final test respectively. After the comparing the testing scores of the former two tests by using statistic software SPSS, it is found out that there is no significant improvement for students' testing scores. Apart from the discussion from the author's and other scholars perspective, interviews with students from experimental class' teachers and professionals from Teaching Quality Department were conducted to probe into the in-depth reasons accountable for this phenomenon. After finding out the causes that may explain the unsatisfactory testing results of the second time, teacher and students made some adjustments in the next period of teaching in order to achieve expected academic record. The testing scores were significantly higher than the previous two tests. The research results show that the teaching effect of blended teaching for freshmen requires a period of time to be obvious. Firstly, Chinese students' autonomous learning ability, their language learning styles and strategies and their computer skills can directly or indirectly affect the teaching effects. Secondly, teachers' online guidance and supervision, teachers' attitude towards blended teaching, their level of information technology and their understanding of blended teaching all have certain impact towards the teaching outcome. The corresponding suggestions are put forward to raise the teaching quality of blended teaching mode. Firstly, attention should be paid to the needs of students and promote online autonomous learning. Secondly, the needs of teachers should never be ignored and teaching guidance should be given to those in need. Finally, teachers' assessment mechanism and teaching management should be improved.

Keywords: Internet, Blended Teaching Design, College English, Teaching Effect, Influencing Factors

1. Introduction

Blended teaching has undergone more than 20 years of development at home and abroad, and researchers, teaching practitioners, government and educational institutions all have basically reached a consensus toward this teaching mode: it will become the "new mode" of education in the "the New Normal" [1]. Especially in the context of the Internet plus, the teaching shows a blowout development, and the popular "Internet plus education" also let all sectors of the community refocus on blended teaching. It is not only compatible with the advantages of classroom teaching and

online learning, but also combines their unique advantages. Its characteristics fully cater to the needs of the society, education and training needs. A large number of researches on blended teaching are conducted. The practical action research and case analysis have effectively promoted the application of blended teaching.

A large number of examples have proved that blended teaching can significantly improve students' learning ability and students hold positive attitude toward it. This paper tries to use the course of college English as a case to construct a blended teaching mode of language course based on SPOC and try to find out whether this finding are applicable to

freshman when study the course of college English, what's more, the factors that lead to the phenomena are analyzed in depth and the influencing factors for the effects of blended teaching are discussed in detail through interviews.

2. Literature Review

In recent years, blended teaching has become the focus in teaching research and practice. Taking CNKI as the retrieval database, up to June 2020, there are 4893 papers on the theme of "blended teaching", of which more than 50% are related to construction of blended teaching mode, and most studies focus on applied courses of liberal arts and operational courses of science, while language courses only involve undergraduate public English or professional English. It is obvious that there is a lack of attention on blended teaching based on public English in higher vocational colleges (only 16 papers). Besides, the main research results can be summarized into three aspects: the first one is to construct blended teaching mode. For example, Yang Fang takes the construction of online resources as the center and constructs a three-stage mixed teaching mode, that is pre-class, in-class and after-class. [2] Zhong Xiao-liu, Song Shu-qiang and Jiao Li-zhen have carried out theoretical research on how to carry out the teaching design of blended teaching. [3] Ma Wu-lin and Zhang Xiao-peng have discussed the learning mode of blended teaching. [4] The second research aspect is from the perspective of technical environment supporting blended teaching, which mainly discusses the construction of mixed teaching mode of public English in higher vocational colleges, which is based on interactive English platform, Longman English interactive software, i-smart, etc. Those researches lack the systematic teaching design of mixed teaching, only focuses on the design and development of online resources, neglects the design and research of teaching analysis, teaching design and evaluation, and there is the problem of "two skins" of online and offline content in the teaching process. Most of online learning is still only to assist, supplement and promote classroom face-to-face teaching, which is the traditional teaching method. Therefore, these teaching mode and method have not changed in essence. The third aspect of research concerns the teaching effects of blended teaching. At present, a large number of studies have proved that blended teaching has remarkable achievements in education, higher education and vocational education. Xie Xiao-shan and Zhu Zu-lin have analyzed the factors influencing the quality of blended teaching in colleges and universities from the subjective and objective reasons. [5] However, at present, the domestic research on blended teaching of higher vocational English is not comprehensive and lacks empirical research. Most of the findings of teaching effect are not supported by data.

Blended teaching has been widely used in vocational education abroad for improving students' practical skills, the ability to solve problems. All of them have positive effects, especially in the field of medical education. Blended teaching is often used as one of the main ways to train doctors.

Compared with traditional training, integrated blended teaching has obvious positive effects in improving students' self-efficacy, stimulating interest in learning, and improving the ability of self-learning in clinical practice. [6] The research in the field of vocational education in Taiwan also found that students who are taught under the blended teaching mode got the problem-solving ability in the real situation and can significantly improve their learning enthusiasm and the passing rate of the examination. [7]

The research on blended teaching mode with strong operability for language courses needs to be further explored. Therefore, it is very important to put forward a blended teaching mode suitable for language courses and to investigate and analyze its teaching effects after it is put into practice. Based on the theory of educational ecology and the theory of achievement orientation, this study attempts to construct a blended teaching mode suitable for language courses in higher vocational colleges. Relying on the online teaching platform of the college, starting from the construction of high-quality teaching resources, through the reform and practice of the blended teaching mode of higher vocational English, the effectiveness of the blended teaching mode proposed in this paper is verified, the teaching practice is guided by the theory, and the theory is tested by the teaching practice, so as to expand the research depth of the blended teaching mode of college English, aiming to improve students' core literacy.

3. Construction of Blended Teaching Mode Based on Network

3.1. Theoretical Basis

3.1.1. Educational Ecology Theory

"Educational ecology is a new interdisciplinary subject. We can learn from the research methods of pedagogy and ecology to study the relationship between various ecological factors and education in the ecological environment, and emphasize the harmonious, balanced and sustainable development of people & people and people & environment in the process of education." [8] From the perspective of educational ecology, classroom is regarded as a micro ecological environment. The elements of classroom (including teachers, students, teaching environment, etc.) interact and depend on each other to form an organic whole system. Under the current situation, with the rapid development and wide application of Internet and information technology, some changes have taken place in the educational ecological environment. The infiltration of information teaching into English classroom teaching leads to the changes of various ecological factors in English classroom. The construction of a harmonious environment will ultimately promote the common growth of various factors. Teachers and students are very important ecological factors in the ecological environment of education. Teachers must change the traditional teaching mode, make full use of information teaching means to give full play to students

learning initiative, so as to avoid the ecological imbalance of classroom teaching. Therefore, under the guidance of the theory of educational ecology, the network-based hybrid teaching mode needs to reconstruct the relationship between teachers and students, that is to say, teachers organize and manage teaching, and students conduct online and offline blended learning under the guidance of teachers, only in this way can we create a harmonious classroom ecology.

3.1.2. Results Oriented Theory (OBE)

The starting point of results-oriented theory is the final learning achievement or peak achievement, and the curriculum design and teaching activities under the guidance of the theory are all in reverse. The core of OBE is to pay special attention to cooperative learning, advocate the members of the learning team to cooperate through repeated challenges to achieve learning results (peak results), thus self competition replaces the previous individual competition among students. Through the way of team cooperation learning, the learning ability of the top students is strengthened, and the knowledge and skills of the backward students are improved. The advantages of blended learning well explain the concept of results oriented. In the network environment, offline learning time, students can adjust their own learning time and learning progress while conduct online study. For the key and difficult parts of the learning content, students repeatedly learn knowledge online by themselves so as to achieve the purpose of sufficient language input. According to Input Hypothesis—"output driven and input facilitation hypothesis", "output is not only the power of language acquisition, but also the goal of language acquisition. Input is the means to achieve the

current output task, and at the same time, it serves to cultivate understanding ability and increase receptive knowledge." [9] The task of language input teaching is completed through online autonomous learning, while the output of language is mainly realized through the classroom achievement display.

3.2. Construction of College English Blended Teaching Mode Based on Network

The most important feature of blended teaching is "to combine synchronous oral communication in classroom with non synchronous written language communication on line, which not only ensures meaningful interactive communication in teaching activities, but also enables students to learn flexibly without space-time constraints. The core goal of this teaching mode is to provide a higher degree of participation in learning experience than a single teaching form, with learners as the center, enabling students to enjoy autonomous space, replacing teachers as controllers of learning experience, thus becoming the main participants and promoters of learning activities, and stimulating learners' learning enthusiasm and creativity, effectively acquiring and applying the knowledge learned ". [10] Under the support of network environment and information technology, blended teaching puts the knowledge transfer and language input into the online learning after class, the output of the results in the current learning in the classroom and extended to the online learning after class. Under the guidance of the theory of educational ecology, the teaching ecological environment of network-based hybrid teaching mode has changed as shown in Table 1.

Table 1. Teaching ecological change under the network environment.

Ecological factors	traditional teaching mode	mixed teaching mode
Teaching environment	Classroom, chalk, blackboard, courseware	online (Network); offline (classroom)
Teacher	lecturer	director; supervisor, manager,
Student	passive receiver	Active builder; participants
Learning resources	books	Books; micro lessons; online open courses
Learning methods	passive learning	Active; experiential

First of all, the teaching environment has gradually replaced the traditional teaching environment of "chalk + blackboard + courseware" by the online and offline information-based teaching environment, making full use of high-quality network teaching materials and resources. Secondly, the roles of the two key ecological factors in the teaching ecological environment have undergone a subversive change, that is, the roles of teachers and students have changed as follows: as the traditional classroom lecturer and leader, the teacher becomes the director, manager and supervisor of the classroom; in contrast, students become the main body of the classroom, from passive recipients of knowledge to active constructors of knowledge and active participants in classroom activities. These changes of teaching ecological environment pose great challenges for teachers. Their organization and coordination ability, information teaching quality and assessment ability are in

urgent in need of improvement. Finally, the learning resources are also expanded from a single book to a variety of digital learning resources such as books plus micro courses and online open courses. The way of learning has also changed from passive absorption of knowledge to active constructors of knowledge and main participants of classroom activities. Based on the new teaching ecological environment of "student-centered, teacher lead", with the help of network resources and information technology, personalized learning situation is created to realize the seamless connection between online teaching and offline learning, which promotes the organic combination of "classroom teaching", "network assisted learning" and "autonomous learning", and finally realizes an interdependent ecological learning community of equality and symbiosis. Therefore, under the guidance of ecological theory and outcome-based education theory, a hybrid teaching mode

supported by network technology is constructed. The specific operation mode is shown in Figure 1.

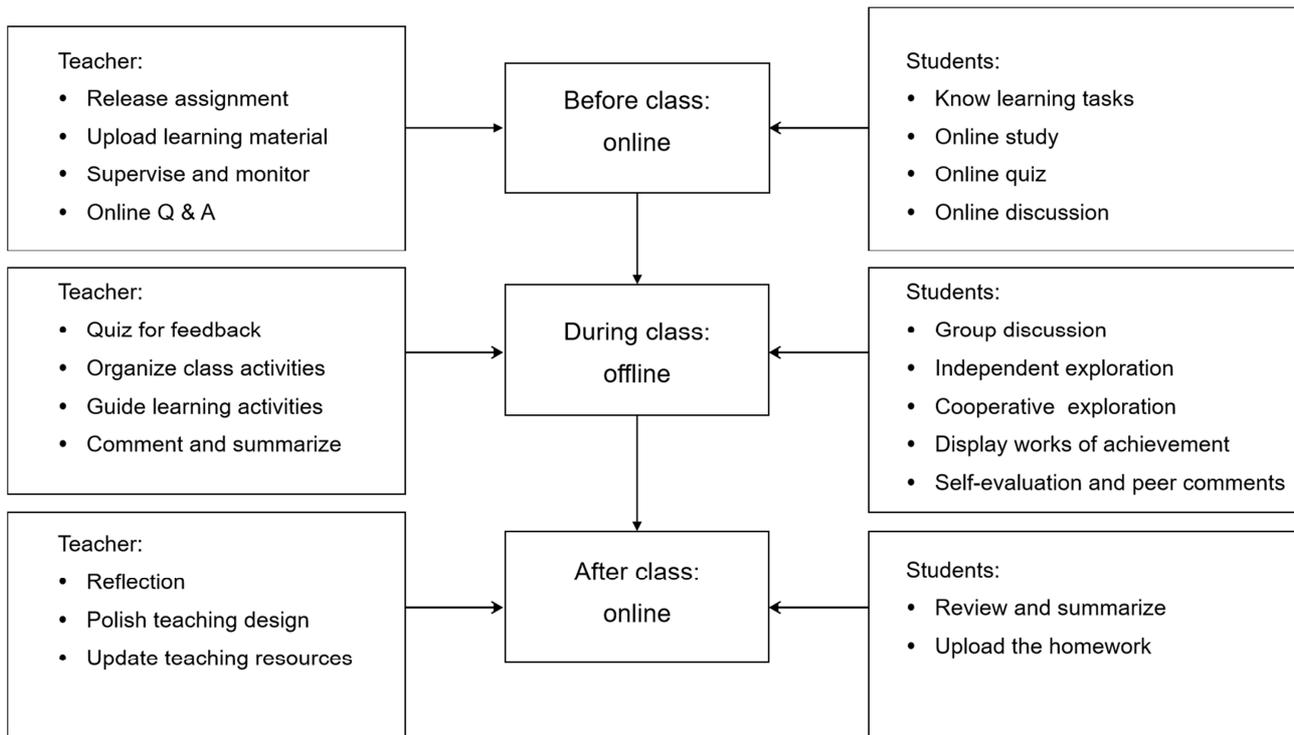


Figure 1. Blended teaching design form.

The online and offline O2O mode characterized by the mixture of learning space (online and offline), the mixture of learning resources (classroom resources plus network resources) and the combination of learning methods (systematic teaching and fragmentary learning) is constructed to strengthen the interaction of classroom and to improve students eagerness for participation. In the online teaching part, teachers upload the prepared teaching resources to the online open course platform in advance, and the students use extra-curricular time to preview. This process is mainly to complete the language input task. In the classroom teaching part, we can systematically sort out the key points and difficulties of online learning content, and then test the students' online learning effectiveness, carry out various forms of group activities, carry out independent exploration, collaborative exploration, display and exchange students works of achievements, or carry out diversified evaluation activities such as teacher-student evaluation, student-student mutual evaluation and self-evaluation. In the classroom, students are the main body, while teachers lead in-class teaching and supervise students to complete classroom teaching activities. Classroom activities include: testing and feedback, deepening classroom activities, guiding the practice of listening, speaking, reading and writing, and evaluating and summarizing learning achievements. In class, priority should be given to situation dialogue. In order to transform the input of language into the output of language, English can be used as a communication tool to improve students' English application ability. After class, students can exchange English messages on the unit theme in the we-chat

group or online courses to provide more language environment for students. Students can also make videos of their oral assignments and upload them to the online learning platform for everyone to share their learning achievements.

4. Teaching Practice

4.1. Test Object

Taking an administrative teaching class (36 students) of industrial robot specialty in Guangdong Communication Polytechnic as the research object, a one semester blended teaching experiment was carried out in the experimental class. The teaching material was the first volume of new vocational English published by FLTRP.

4.2. Test Process

The teaching time of this experiment is one semester, a total of 15 weeks, four hours per week, a total of 60 hours. A pretest was conducted at the beginning of the semester, and two more tests were conducted in the eighth week and the end of the semester. After the middle term test, the testing scores of former two tests were compared and later the author conducts in-depth interviews to probe into the possible factors that may lead to this phenomenon. When the reasons are found out, some adjustments were made both on the students and teachers sides, then in the final exam, the testing scores were compared with the former two tests. In order to ensure the reliability and validity of the test, the papers of the three tests are chosen from the the authentic test paper of

PRECTO (practical English test for college students), covering six parts: listening, vocabulary, grammar, reading, translation and writing. One way analysis of variance was used to compare whether the average of the three tests had significant difference, so as to prove the teaching effect of this teaching mode.

The experimental class was taught according to the following mixed teaching mode. Before class, students log into the online open course and the oral listening and speaking platform Myet app created by the teacher under the superstar learning platform for autonomous learning, and complete the acquisition and inspection of knowledge according to the learning objectives of each unit. In class, the teacher sorts out and explains the key and difficult points in detail, and guides and organizes group activities, such as oral practise or other forms of language learning activities, while students are expected to complete autonomous learning before class. After class, the students continue to study online and upload their works of achievements (eg, a short video of situational dialogue) to the online learning platform for mutual comments and evaluations.

Case study. Taking unit 7 "customer service" as an example, the teacher carefully studies the theme and content of this unit before class and sums up the four steps of customer service work-flow by using LAAF mode and other skills, completes the activity exercises designed in the micro class course, and then sums up by focusing on the analysis of two audio listening materials (positive and negative) in the micro class. The content of students' online learning is the micro lecture resources prepared by the teacher in advance and the telephone customer service English course about "handling customer complaints" in the oral listening and speaking platform myet app. Students are expected to learn the customer service response skills and dialogues in the course, and correct their voice tone through the artificial intelligence speech recognition of myet. In the classroom teaching, the teacher not only simply sorts out and summarizes the key and difficult points of this unit, but also designs group activities regarding the language output of the students. Therefore, the following three types of activities can be designed: the first type is group-cooperation activities. Students are divided into groups, working together, analyzing and discussing. Through the Internet search, collection and screening of English dialogue texts on the topic of "handling customer complaints", form word documents and mark the text website. Using LAAF mode to annotate and analyze the text in the document, especially to describe the appropriateness or inappropriateness of customer service response. Students are encouraged to think critically and to complement and improve the LAAF model. In the process of analysis, if it is found that the customer service has improper response, it will be corrected and perfected on the basis of the dialogue obtained from the retrieval, and a written analysis report will be formed. At the same time, students are required to improve the dialogue, imitate the example video, role play and record and upload the video to the online open course platform. According to the opinions and suggestions of

teachers and students, students can revise written reports and exercise videos repeatedly, and upload reports and videos to the network platform of super star learning and We-Chat official account. The teacher will post a voting link to invite the customer service specialist, all students and extracurricular students to vote on the group work. It not only realizes the cooperation of homework, but also reflects the competition of the course, improves the students' sense of achievement and competition, and enriches the teaching resources in the future. The second type is cooperation of all. Through various online shopping apps, students can consult or complain about online store customer service, transpose thinking and accumulate experience. In the classroom, the teacher uses the "talent selection" function of superstar learning link to randomly select six students as online shop customer service (pre-sales, in-sales and after-sales), while the other students are online shopping customers. "Customers" will consult or complain to "customer service" in English on various problems that may arise in the process of online shopping. After the end of each round of activities, the customer group can select the "service star" of the round through the "voting" function. The third type is peer cooperation. Students can call the English Customer Service Department of the communication department (China Mobile, China Uni-com, telecom) to consult or complain about telephone charges or other problems, and record the whole call. Then write quotations to form a dialogue text, and use the LAAF model to understand and analyze the content, and correct the inappropriateness. Finally, peer role-playing, recording screen text and audio, uploading the exercise work are expected to be finished within the deadline.

Based on the above design, in line with the teaching concept of "mobile learning, cooperative homework, course competition, diversified evaluation and diversified activities", a hybrid teaching mode combining online and offline learning is used to enable students to deal with customer complaints in English and cultivate their ability to study and explore through the Internet. It improves the information literacy of students and improves the core professional competence. The virtual learning task is integrated into the real work task. The group cooperative learning and individual independent learning are equally emphasized. The teachers' teaching resources, network learning resources and students' learning achievements are organically integrated into rich and systematic learning resources. Students' independent exploration and practice of knowledge is emphasized, so as to realize the following teaching philosophy: "let learning happen", "learn by doing" and "learning to do". After the module learning, the group uploaded their works of achievements. The teachers and customer service commissioners served as the main judges. The extracurricular students can vote on the of We-chat official account. It not only cultivates the students' competitive consciousness, but also makes them understand the work contents and skills of customer service. Finally, the excellent analysis report and the simulated videos are posted on the We-chat official account, which benefits more learners and enrich the

teaching and learning resources.

5. Discussion and Analysis

The results of the three tests were input into SPSS statistical software for single factor analysis of variance, and the following chart information was the output. Table 2 shows that there are 36 students in the mixed teaching experiment. The average scores of the three tests at the beginning of teaching, the eighth week of teaching and the end of teaching are 62, 63 and 66 (after rounding). Table 3 reports the important ANOVA results: F value (f), degree of freedom (DF) and significance (SIG. (2-tailed)). Since this data does not satisfy the spherical hypothesis (i.e., $P > 0.05$), this paper selects greenhouse geisser Statistics (F value, degree of freedom and significance). Through the analysis of Table 2, the results show that blended teaching has a significant impact on the improvement of students' English application ability ($f(1.190, 41.645)=10.55, P < 0.05$). After the F-test value reached the significant level, the intra-group comparison of ANOVA in Table 4 further showed that the mean value between the beginning and the eighth week of teaching did not reach the significant level ($f(1, 35)=0.901, P > 0.05$), and the mean value between the eighth week and the end of the teaching reached the significant level ($f(1, 35)=61.977, P < 0.05$). Finally, the comparison chart of the mean value of one-way ANOVA (Figure 2) is obtained, which clearly shows the mean value obtained from three tests and their relationship. It can be seen from the figure that the effect of blended teaching on improving students' English application ability shows an upward trend, but the increase is not obvious in the eighth week compared with the beginning, and the rising range at the end of the eighth week is very significant.

The findings show that students' academic record did not demonstrate the expected results, which is a little bit surprising. Several factors may account for this phenomenon. To start with, the freshmen have just graduated from high school and are used to the traditional teaching mode dominated by teachers. They still cannot adapt to the autonomous learning, inquiry learning and cooperative learning which are required by blended teaching. Secondly, most of the freshmen from rural areas lack the experience of online learning, and this technical problem will also affect students' online learning experience and participation. The results of this experiment are also consistent with the research results of Chen Si-ben and other scholars. They also found that "there is a positive correlation between students' autonomous learning and English achievement. Students' English achievement will be affected by their autonomous learning attitude and ability, but the influence is weak." [11] At the same time, this result also provides a practical basis for Cai Ji-gang's theory. Cai Ji-gang points out that "the language learning center" or "English Autonomous Learning Center" we are carrying out is to explore the way of foreign language teaching under the multimedia technology, rather than to prove the advantages of blended teaching mode by comparing with the traditional teaching mode in terms of improving students' scores." [12] The research results of Xie Xiao-shan and Zhu Zu-lin can also explain this phenomenon well, that is, Chinese students' lack of online learning experience, lack of language practice ability, weak awareness of autonomous learning, low participation enthusiasm, and in-adaptability to blended teaching methods jointly affect the quality of blended teaching in colleges and universities. Finally, teachers' information-based teaching literacy and their teaching ability of effectively combining classroom teaching and online teaching need to be further enhanced.

Table 2. Descriptive statistics of univariate analysis of variance.

	Mean	Std. Deviation	N
At the beginning	61.6111	9.33894	36
Week 8	62.6667	6.74431	36
At the end of the day	65.8056	6.29203	36

Table 3. Single factor analysis of variance intra group effect test table Tests of Within - Subjects Effects Measure: MEASURE_1.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
time	Sphericity Assumed	342.722	2	171.361	10.554	0.000
	Greenhouse - Geisser	342.722	1.190	288.035	10.554	0.001
	Huynh - Feldt	342.722	1.208	283.763	10.554	0.001
	Lower - bound	342.722	1.000	342.722	10.554	0.003
Error (time)	Sphericity Assumed	1136.611	70	16.237		
	Greenhouse - Geisser	1136.611	41.645	27.293		
	Huynh - Feldt	1136.611	42.272	26.888		
	Lower - bound	1136.611	35.000	32.475		

Table 4. Single factor analysis of variance intra group comparison test table Tests of Within - Subjects Contrasts Measure: MEASURE_1.

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Level 1 vs. Level 2	40.111	1	40.111	0.901	0.349
	Level 2 vs. Level 3	354.694	1	354.694	61.977	0.000
Error (time)	Level 1 vs. Level 2	1557.889	35	44.511		
	Level 2 vs. Level 3	200.306	35	5.723		

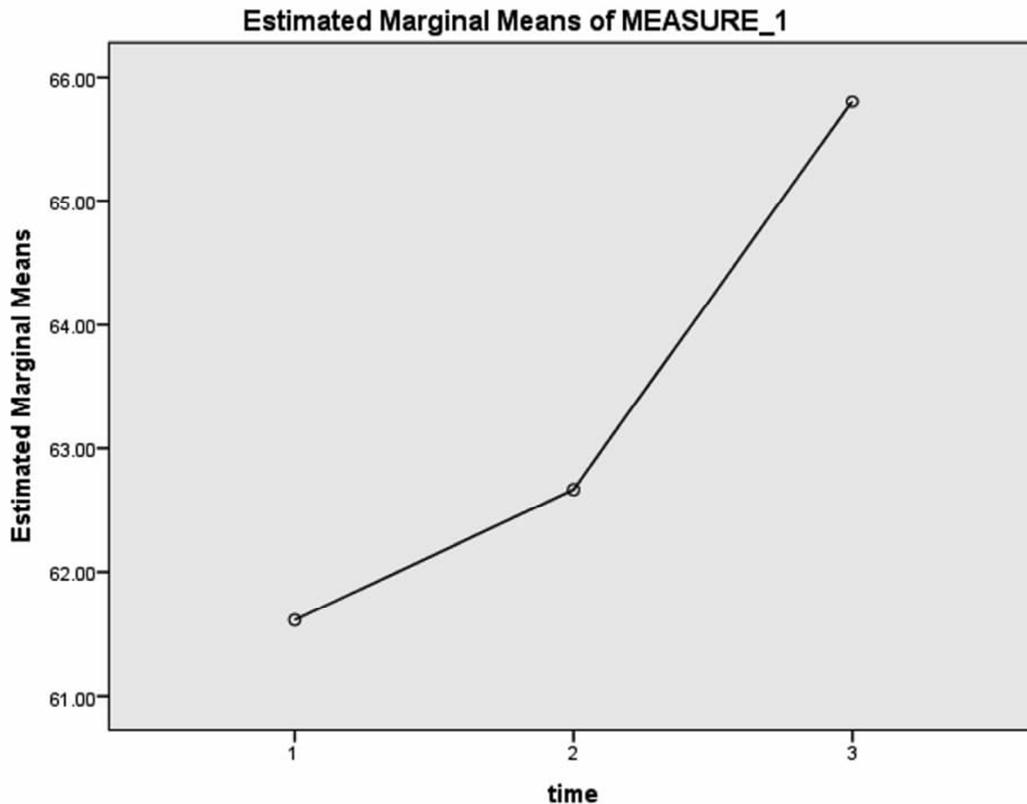


Figure 2. Comparison of the mean values of one factor intra group ANOVA.

In order to explore the reasons behind this phenomenon, in-depth interview were conducted during the teaching experiment. According to the principle of randomness, some representatives of students, teachers and the staff members from Teaching Quality Control Department were selected to conduct in-depth interviews on the influencing factors of blended teaching quality. There are 12 student representatives, including 9 boys and 3 girls. They major in mechanical and electrical integration, electrical automation, port and shipping management. The interviews were conducted from 12:30 to 13:30 during lunch break in office of the NO. 1 Teaching Building.

As far as the students are concerned, they think that due to their own and external subjective and objective conditions, the implementation effect of blended teaching is affected. From the perspective of subjective factors, on the one hand, students themselves lack the habit and ability of autonomous learning. Most vocational students are used to the passive learning led by teachers in the middle school stage, and some of them are "students with learning difficulties". They lack the ability and strategy of independent learning, so they believe that not all of them are suitable for this new teaching method. On the other hand, students lack perseverance in learning. In the early stage of teaching practice, some students tend to have a curious attitude towards new things. Therefore, in the early stage of teaching practice, students' online hours, speeches, posts and online tests are relatively active. However, with the advancement of teaching, most students can not adhere to it. Some students reflect that they are poor in self-control, easy to be interfered by information

unrelated to learning, resulting in a waste of resources and time, anxiety. Many students also reflect that the lack of course content, the burden of learning, and the inadequacy of teachers' guidance and supervision may to some extent affect the quality of online learning in blended learning. For students from remote mountainous areas, the first problem they encounter is the basic technical operation of online learning. As a student from a rural area in northern part Guangdong province said, "the online test process is too troublesome, not as convenient as paper-based test. We are not accustomed to reading a long passage on the small screen". In addition, as far as the course content is concerned, most respondents are satisfied with the online course. In terms of form, the combination of text and video is achieved, and humanistic and business knowledge are taken into account in the content. However, the course content is not consistent with the personalized needs of students. For example, as far as the test section is concerned, some students' needs are to pass PRETCP A / B exam, some students aim to pass college English Band 4 / 6, and some students want to improve their oral English. Therefore, this part of the content can be further refined to truly meet the personalized learning needs of different student groups. This also confirms the research results of Du Shi-chun and other scholars from practice: "perceived ease of use, perceived usefulness, learning atmosphere and interactive behavior are positively correlated with the acceptance of blended learning, and the acceptance of learners has a significant positive impact on the learning effect." [13] In terms of learning burden, students report that almost every course in college

has online courses, and the online courses contain a lot of content. The online learning time takes up most of the spare time, which increases the learning burden and leads to academic dishonesty such as "hang up". This also reminds us that "the transformation of teaching mode is a systematic project, which requires the collaborative development and overall design of various courses in Colleges and universities, otherwise, the time for students' autonomous learning may not be guaranteed." [14] During the interview, some students also said that "the screen on the mobile phone is too small, and it is not comfortable to watch for a long time". These students are not quite adapted to mobile learning. Considering the characteristics of mobile terminals, the design of online courses should carry out special teaching video development, in order to give full play to the advantages of information technology. They think that the learning of some online courses is also time-consuming and inefficient, which is not as good as the teaching effect of traditional classroom. In addition, the absence of synchronous online guidance and interaction also dampens students' learning enthusiasm to a certain extent. In addition, the defects of blended teaching also cause students' reflection. Some students think that "the whole English teaching and English videos of online courses inevitably have some places that they can't understand, and the videos without subtitles will affect their confidence in further learning"; and "the knowledge gained from classroom activities is less, mainly by watching the accumulation after class". This also tells us that we must balance classroom teaching and online course autonomous learning, which complements each other and achieve complementary advantages, so that the input and output of language can be improved at the same time, maximize the dual function of "output driven input facilitation".

As far as teachers are concerned, the author mentioned the following factors which may cause the phenomenon. Firstly, teachers lack internal motivation to effectively implement blended teaching. This has something to do with the school's assessment standards for teachers. Schools tend to pay more attention to scientific research than teaching, and lack of certain attention and incentive mechanism to carry out mixed teaching, which leads to some teachers' passive attitude when trying new teaching mode. This also explains from one side that in the interviews with students, most students think that teachers' participation in online guidance, supervision and interactive Q & A is not very satisfactory. Secondly, some teachers lack of training. Some middle-aged and old teachers think that they are lack of systematic professional training, lack of thorough understanding of mixed teaching, lack of experience in the application of information technology, and some new young teachers don't know how to coordinate the interaction between classroom knowledge system teaching and online learning guidance after class, so they don't fully realize the complementary advantages of traditional teaching and online learning. According to the survey, in the teaching practice, the vast majority of teachers' mixed teaching is just a mere formality, such as simply using the "check-in"

function of the curriculum platform to investigate the attendance rate of students, and the integration of online teaching and offline teaching has not been realized. In a word, the level of teachers' information technology is very important to the quality of teachers. It includes the design of teaching organization by using information technology, the enrichment of teaching means and methods, the control of the richness and applicability of teaching resources, and the attitude of teachers towards information-based teaching.

For the teaching quality supervisors, the author also interviewed the professionals of the Teaching Quality Control Department, trying to analyze the influencing factors of mixed teaching quality from the perspective of teaching quality supervisors. Firstly, blended teaching is a mere formality, and some teachers does not carry out the corresponding instructional design activities in essence. It is impossible to give full play to the advantages of blended teaching and achieve the expected effect. Some teachers only attach importance to the construction of online course resources, and ignore the design and development of mixed teaching by using resources. As a result, online learning platform becomes a place to store courseware and teaching resources, and the utilization rate of the platform is relatively low. Second, there is a lack of student evaluation system matching with blended teaching, and the evaluation concept of combining formative evaluation with summative evaluation is not really implemented in teaching evaluation.

6. Implications

Based on the theory of teaching ecology and the theory of OBE, this paper constructs a blended teaching mode suitable for language courses, and uses this mode to carry out teaching experiments on vocational college students. The results show that students' English application ability test scores at the end of the semester are significantly higher than those in the eighth week, but there is no significant difference between the eighth week and the beginning of the semester. After finding out the factors accountable for the Generally speaking, with the further application of blended teaching, students' English application ability is constantly improving. The results of this study have some implications for English teaching in higher vocational colleges.

In order to achieve the expected results, the application of blended teaching does not only requires a transitional period, but also need some efforts to make adjustment on the part of students, teachers and college administrative departments.

Firstly, special attention should be paid to raise students' English autonomous learning ability and English learning strategies considering the poor English foundation, weak awareness and ability of autonomous learning of higher vocational students. Moreover, they have been used to the traditional classroom teaching methods in middle schools for a long time. In the process of implementing blended teaching, teachers should consider the specific learning situation of students, adopt a gradual approach, and gradually promote blended teaching in stages and steps. The positive effects of

teaching can be shown after a certain period of time.

Secondly, the special needs of teachers should never be ignored and teaching guidance should be strengthened. One way is to improve teachers' information literacy and educational technology ability in the process of implementing blended teaching. Schools should strengthen the relevant training for teachers with low level of information teaching, and attach importance to the teaching guidance for teachers to enhance the teaching effects. Organize teachers to learn relevant theoretical knowledge of blended learning, and carry out relevant teaching competition of blended teaching, so as to promote teaching and learning by competition. At the same time, it provides teachers to observe and learn the classic demonstration course of blended teaching, and creates the "golden course" of blended teaching. Teachers write observation experience and personal teaching reflection, so as to better promote the professional development of teachers. The second approach is that teachers themselves should build and really implement the student evaluation mechanism suitable for blended teaching. Blended teaching effect refers to the process of face-to-face teaching and online learning, including online participation in learning activities, completion of online tests, and judgment of learning results and gains. Assessment and evaluation should be based on the combination of formative evaluation and summative evaluation. The final point is that the fundamental principles of classroom teaching and online teaching are goal driven, and they are harmonious but different. Teachers should prevent two tendencies in the implementation of blended teaching: one is to rely entirely on online courses, and the classroom becomes a tutorial exercise class. The other is to put the online course aside completely, and the online course and classroom teaching present two skins. Blended teaching requires teachers to design carefully, integrate traditional classroom and online course learning, and achieve the following effects: output-driven to promote learning, accurate supplementary learning, appropriate guidance, and evaluation to assist learning.

Thirdly, teacher assessment mechanism and teaching management should be improved. Colleges should formulate a scientific and reasonable teaching assessment system, emphasize the importance of teaching and strengthen the weight of blended teaching in teaching assessment, so that teachers can reasonably allocate time and energy. Because the implementation of blended teaching requires not only the construction and update of online resources before class, but also the follow-up supervision and guidance of students' online learning after class, teachers often need to pay more time and energy than the traditional classroom face-to-face teaching. If the evaluation mechanism of school blended teaching curriculum construction is lack of scientific rationality, the in-depth application of blended teaching mode will be affected. Therefore, the workload, teaching quality and teaching innovation of blended teaching will be included in the evaluation index in order to encourage teachers to carry out the practice and research of blended teaching seriously.

7. Conclusion

This paper provides empirical support for the positive effects of blended English teaching in higher vocational colleges. Based on the platform of online open course, this paper constructs a blended teaching mode and put it into teaching practise for one semester. Test method is used to test the teaching quality. The research shows that the teaching quality has not been significantly improved during the first half of the semester. After finding out the factors which influence the quality of blended teaching and be accountable for this phenomenon by conducting the interviews, some adjustments were made. At the final exam, there are significant improvements in terms of the marks. Based on this results, the author puts forward the implications for teaching and learning and corresponding suggestions were made to enhance the effects and quality of blended teaching. This paper focuses on three dimensions in-depth: the students, teachers and teaching staff from teaching quality supervision. It also confirmed Professor Hu Jiehui's argumentation from a qualitative perspective: "the learning promotion efficiency of online tasks, the learning promotion efficiency of classroom activities, the curriculum experience of classroom activities, the degree of offline learning engagement, and the degree of classroom activity engagement." [15]

The deficiency lies in the lack of oral test items in the test of students' comprehensive English application ability. Therefore, the test results may not fully represent the students' English comprehensive application level. In addition, there is no in-depth study on other related factors affecting the effect of blended teaching. Future research can the significance or correlation between these influencing factors. The ultimate purpose of multiple regression analysis or structural equation model is to determine which factors play a major role in order to improve the overall teaching quality of English blended teaching, so as to comprehensively improve students' comprehensive English application ability.

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