

A Study on the Learning Effects of a Blended Listening and Speaking Course

A Case Study of Medicine-related EFL Learners

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ABSTRACT

This study constructed the blended listening and speaking instruction mode for medicine-related EFL learners, and investigated its effect on 48 students in China. The study was conducted via the pre- and post-test, questionnaire survey and blended listening and speaking instruction in 12 weeks. The results were as follows: blended listening and speaking instruction was significantly correlated with the medicine-related students' listening performance; students gave positive evaluation on the blended listening and speaking instruction in terms of its convenience, engagement, effectiveness and overall satisfaction.

Keywords: *blended listening and speaking instruction, medicine-related students, listening performance, evaluation*

I. INTRODUCTION

In recent years, with the development of information technology, foreign language teaching environment has changed significantly. Traditional face-to-face classroom has been unable to meet the individual needs of foreign language learners. At the same time, online education has gradually become a major trend in the development of higher education [1]. Combining the advantages of traditional classroom and online education, the blended teaching mode came into being [2], [3]. The combination of online and offline teaching methods, namely blended teaching, is an effective way to achieve efficient foreign language learning [4].

The rapid update of information technology makes medical knowledge increase continuously, while the traditional teaching mode dominated by teachers makes students lack the initiative in learning, which seriously restricts the innovation of medical teaching, the cultivation of medical talents and the progress of medical technology [5]. Therefore, blended medical

teaching is imperative. As a part of the reform of medical education, college medical English teaching reform will become an inevitable measure for the progress of medical education.

However, at present, there are few practical explorations on blended teaching for college English, so there is a lack of profound experience and understanding of its positive role [6]. In addition, the empirical research based on medical English teaching practice in China is scarce, and although some preliminary practical research is carried out, further verification and analytical research on the effect of teaching practice is even scarcer [7]. Besides, there is a dearth of study on blended listening and speaking teaching practices for medicine-related students in colleges and universities. In view of this, this study aims to explore the influence of online + offline listening and speaking teaching mode on the listening and speaking level of medicine-related students through blended teaching experiment, so as to provide a new idea and way for college English listening and speaking teaching, especially for medicine-related students' listening and speaking learning.

II. LITERATURE REVIEW

Blended teaching refers to the combination of traditional classroom teaching and online teaching [8]. Blended teaching has also produced many widely used models in practice, such as flipped classroom and SPOC [9]. In recent years, blended teaching mode has

*Funds: This article is part of the research of 2019 Internet + Blended Teaching Mode Reform of Xinhua College of Sun Yat-sen University — "Exploration and Practice of College English Listening and Speaking under the Blended Teaching Mode" (Project Number: 2019HHJG005); and it is supported by 2019 Higher Education and Teaching Reform Project in Guangdong Province — "Blended Teaching Innovation and Practice based on Smart Class of Integrated English". This article is published when being a visiting scholar in Guangdong University of Foreign Studies.

attracted more and more attention in the field of foreign language teaching. Front-line English teachers try to construct or explore the effect of blended teaching mode in different teaching environments in China, such as general college English classroom [10], [11], ESP (English for Specific Purposes) [12], translation courses [13], and academic English [14], [15].

However, on the whole, in the field of higher education, there are not many researches on blended teaching [10]. There is less research on blended teaching of listening and speaking courses for non-English majors. Among the existing researches, Zhang Huanrui et al. [1] took the blended teaching practice of "*Basic English Listening and Speaking*" course for non-English majors as an example, and analyzed the learning strategies of English learners under the blended teaching mode based on MOOC. Gao Pin [16] used the theory of production-oriented approach (POA) to construct the teaching mode of "drive — promotion — evaluation" in flipped classroom of college English listening and speaking. Through empirical research, it is found that this teaching mode improves the teaching effect of college English listening and speaking course. However, these studies are carried out among ordinary students of non-English majors, and there is almost no blended listening and speaking teaching for medicine-related students of non-English majors.

Medical English, as an ESP (English for Specific Purposes), is a follow-up college English course. It is generally set up after the EGP course (English for general purposes) and plays an important role in medical colleges. In the existing ESP medical English teaching, Liu Bing [17] pointed out the problems of medical English in medical colleges and universities, and constructed a blended medical English integrating English reading, writing, translation, audio-visual speaking, but did not conduct empirical research on its effect. Mu Xiurong and Xu Houqian [18] constructed an English listening teaching method in a medical college through task-based teaching method, and explored its influence on the freshmen' English listening performance, learning interest and autonomous learning ability. To sum up, almost all the existing researches are carried out in medical colleges and universities, and few of them explore the impact of blended listening and speaking teaching mode on medicine-related students in ordinary colleges and universities. Based on this, this study attempts to construct a college English listening and speaking teaching mode for medicine-related students in general colleges and universities, and explores its effect through empirical research, so as to provide reference for medical English listening and speaking teaching in general English stage and preparation for the subsequent development of medical English ESP.

III. CONSTRUCTION OF BLENDED ENGLISH LISTENING AND SPEAKING CLASS FOR MEDICAL STUDENTS

The blended teaching of college English listening and speaking course aims at the freshmen medicine-related students of non-English majors in colleges and universities. The purpose of this study is to develop learners' language skill knowledge, including phonetic skills, listening skills and communication strategies, and cultivate students' autonomous learning and collaborative ability. Meanwhile, through the learning of TED-Ed medical videos, professional competence is to be expanded.

Revolving around this teaching goal, the specific classroom teaching process of this course (see "Fig. 1") is as follows:

A. Pre-class online learning

Before the teaching activities, based on the unit topics and teaching goals, teachers upload course-related learning resources through FLTRP's (Foreign Language Teaching and Research Press) Unipus, an online-study platform in China, mainly including audio and video, such as consonant / vowel pronunciation, special phonological rules (stress, liaison, weak sounds, sense group and intonation), or extracurricular videos related to the topic, so as to guide students to learn independently and complete the listening exercises and pronunciation training tasks that are closely related to the course content. At the same time, teachers design communicative scenes and output tasks related to the topic before the class, and the groups complete the tasks before class, and display in groups in class. Teachers use fragmented time to communicate with students online through Wechat, answer questions and solve doubts, so as to enhance students' learning enthusiasm.

B. In-class application and improvement

In class teaching, four-step method is adopted. This method mainly includes pronunciation check-up, problem-solving on pre-class listening, in-class listening practice, group presentation, focusing on language, strategies and opinions. Specifically speaking, in the phonetic check-up stage (10 minutes), teachers check the students' study of pronunciation in various forms, such as classroom quiz, guessing, pronunciation fault finding, role playing, poetry reading, etc. In problem-solving on pre-class listening stage (10 minutes), after the pronunciation check-up, teachers will also use about 10 minutes to answer students' questions in autonomous listening learning before class, such as language and skill questions, so as to help students internalize and improve their language knowledge and skills. Phonetic check-up and problem-solving on pre-class listening are the consolidation and improvement of autonomous learning before class. In

in-class listening practice stage (40 minutes), after completing the first two steps, students have the listening practice, and teachers guide students to complete the listening materials through the steps of "pre-listening prediction — listening materials — self-verification — post-listening assessment". In group presentation stage (30 minutes), according to the group output task assigned before class, teachers should listen to the group report in class. Through language-based tasks, skill-based tasks, or topic-based tasks, students can be involved in language application activities such as role play, simulated dialogue, knowledge report, topic discussion, video display, etc. Through team cooperation, they can continuously improve their English listening and speaking ability in the process of "doing". Teachers and students carefully observe and summarize the group work and provide feedback.

C. Extracurricular extension

Students not only need to complete the learning task of "College English Listening and Speaking Course",

but also need to learn the TED-Ed medical videos after class. Students in groups (3-4 students) complete a TED-Ed video learning every week, covering eight topics, such as "what is obesity", "what is depression", "what is HPV", "the mysterious science of pain", "how does caffeine keep us awake", "how does asthma work". Teachers will release the video on the Unipus App one week in advance, and the students will cooperate with each other to complete the word document assignment for each medicine-related video. The assignments include: Word Bank module (vocabulary assistance), Think module (multiple choice questions and blank filling questions involving listening theme and details), and Discuss module (discussion topics related to video content). The monitoring and evaluation method is to require students to submit the completed word documents every week. Teachers give the score and feedback according to the students' performance.

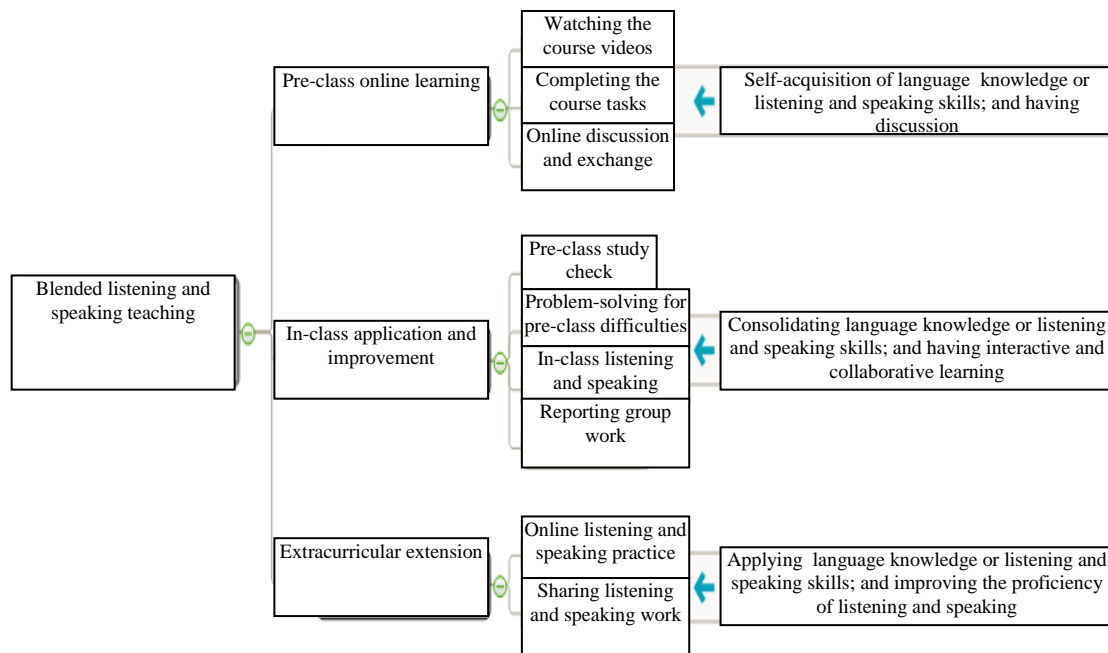


Fig. 1. The construction of blended listening and speaking teaching mode for medical students.

IV. AN EMPIRICAL STUDY ON THE EFFECT OF BLENDED LISTENING AND SPEAKING TEACHING

A. Research questions

In order to explore the effect of blended teaching mode in English listening and speaking class for

medicine-related students, this study mainly attempts to probe into the following two questions:

- Can blended listening and speaking teaching method improve medicine-related students' English listening performance?
- How do medicine-related students evaluate the blended listening and speaking teaching mode?

B. Participants

This study selected two classes of medical students in a college in Guangdong Province in China as participants. The experimental class is consisted of 48 nursing students who entered the college in 2019, including 6 boys and 42 girls. The control class is made up of 38 pharmaceutical students who entered the college in 2019, including 19 boys and 19 girls. The two classes were chosen as the research objects for two reasons. Firstly, the author served as the listening and speaking teacher of the two classes, and the two teaching classes were intact (all medicine-related students), which was convenient for teaching; secondly, before the experimental teaching, there was no significant difference in the achievement of CET-4 listening test between the two classes ($t=1.442, df=84, p=0.153>0.05$).

C. Data collection and analysis

This study adopts quantitative research method to collect quantitative data from the pre-test and post-test of CET-4 and questionnaire to investigate the change of students' listening level in blended teaching mode and students' evaluation. The author first conducted a pilot study on two sets of previous CET-4 exam paper in the parallel class of another teacher who did not participate in the experiment. The past CET-4 exam papers include news listening, long dialogue and short passage comprehension, with a total of 25 objective questions. The full score is set at 100 points. The results of the pilot test showed that there was no significant difference in the difficulty of the two sets of past CET-4 exam papers ($t=0.050, df=76, p=0.960>0.05$). At the same time, there was no significant difference between the experimental class and the control class in the pre-test results of CET-4 ($t=1.442, df=84, p=0.153>0.05$).

Because the new semester started relatively late for the freshmen, the teaching week only spans from the 6th week to 18th week. Therefore, the experimental teaching is conducted for 12 weeks. The experimental class completed the learning of the first five units of "College English Listening and Speaking Course 1" and TED-Ed medicine-related videos in accordance with the blended listening and speaking teaching mode of "pre-class online learning — in-class application and improvement — after-class extension". Whereas the control class completed the listening and speaking task of "College English listening and Speaking Course 1" in class, and finished the related listening and speaking homework after class in accordance with the traditional teaching mode.

After the experimental teaching, the experimental class and the control class were given the post-test of CET-4 in the 18th week. At the same time, the experimental class was required to fill in the "Blended Teaching Questionnaire of College English Listening

and Speaking" (adapted from Wang et al., 2019 [10]; Aysel, 2014 [19]). The questionnaire consists of two parts: students' personal information and evaluation of blended listening and speaking teaching. Students need to evaluate the convenience, participation, effectiveness and satisfaction of blended listening and speaking learning in the whole semester. The questionnaire was in the form of Likert 5-level scale: 5 (being completely consistent) to 1 (being completely inconsistent). After the experimental teaching, an electronic questionnaire was sent out to students' Wechat group through the WJX.CN (an online website for designing questionnaires in China) in the 18th week, and 48 questionnaires were collected from all the students in the experimental class.

After the completion of data collection, this study uses SPSS 22.0 to analyze the quantitative data of the pre-test and post-test of the past CET-4 exam papers, and investigates the changes of listening and speaking proficiency of medicine-related students in the blended teaching environment. Besides, through the analysis of the questionnaire, this paper systematically explores the students' evaluation of blended listening and speaking teaching.

D. Research results

1) *Changes in English listening performance of medicine-related students:* In order to understand the changes of learners' listening performance under the blended teaching mode, this study conducted a pre-test of listening performance at the beginning of the semester and a post-test at the end of the semester. The listening proficiency test uses two sets of previous CET-4 exam paper of equal difficulty.

The independent sample t-test results of the experimental class and the control class (see "Table I" below) indicated that the average listening scores of the two classes before experimental teaching were 40.5833 and 35.8947 respectively, and there was no significant difference ($t=1.442, p=0.153>0.05$); and the changes occurred after the experimental teaching. The average listening score of the experimental class (52.0417) was higher than the average listening score of the control class (43.6842), and there was a significant difference in the test scores after the CET-4 listening ($t=2.334, p=0.022<0.05$). This shows that the blended teaching mode can effectively improve the English listening level of medicine-related students.

TABLE I. DIFFERENCES IN PRE-TEST AND POST-TEST LISTENING PERFORMANCE OF THE EXPERIMENTAL CLASS AND THE CONTROL CLASS

Item		Group	M	SD	T
English Listening	Pre-test	Experimental class	40.5833	15.4146	1.442
		Control class	35.8947	14.3918	
	Post-test	Experimental class	52.0417	16.7611	2.334
		Control class	43.6842	15.1448	

The paired-sample t-test results found that (see "Table II") that after one semester of blended listening and speaking learning, the students in the experimental class had significantly improved their listening performance ($p=.000<0.05$), and the average score had increased by 11.5584 points. After one semester of listening study in the control class, the scores also

improved significantly ($p=.014<0.05$), but the average improvement score of 7.7895 was significantly lower than 11.5584 points of the experimental class. It can be seen that the blended listening and speaking teaching has a significant impact on the improvement of medicine-related students' listening proficiency.

TABLE II. COMPARISON OF PRE-TEST AND POST-TEST LISTENING SCORES BETWEEN THE EXPERIMENTAL CLASS AND THE CONTROL CLASS

Group	Pre-test (M)	Pre-test (SD)	Post-test (M)	Post-test (SD)	T	P
Experimental class	40.5833	15.4146	52.0417	16.7611	-5.232	.000
Control class	35.8947	14.39179	43.6842	16.14479	-2.582	.014

2) *The evaluation of blended teaching mode by medicine-related students:* The results of the questionnaire demonstrated that 97.22% of the students ($M = 4.2$) agreed with the convenience of blended listening and speaking. Specifically, 95.83% of the students ($M=4.17$) thought that "the various platforms of blended listening and speaking learning are easy to operate"; 97.92% of the students ($M=4.27$) agreed that "blended listening and speaking learning is convenient to obtain listening and speaking resources"; and 97.92% of students ($M=4.23$) found that "blended listening and speaking teaching makes it is easy to cooperate with students".

In terms of participation in blended listening and speaking learning, 94.45% of the students stated that the blended listening and speaking teaching could improve the participation in listening and speaking learning. Among them, almost 100% of the students believed that "blended listening and speaking teaching improves the participation in the course", and 93.75% of the learners noted that the frequency or quality of their interaction with their classmates had increased under the blended listening and speaking teaching. In addition, the vast majority of students also felt that the frequency and quality of their interaction with teachers had been improved. However, it needs to be pointed out that six learners (12.5%) were not satisfied with their input in blended listening and speaking teaching. This shows that although blended listening and speaking learning improves the participation of most students, the frequency and quality of interaction between students and teachers as a whole, there are differences in individual input.

In terms of the effectiveness of blended listening and speaking learning, the vast majority of students

(95.49%) thought blended listening and speaking teaching was effective. Specifically, 97.92% of students ($M=4.23$) thought that "compared to traditional listening and speaking classrooms, blended listening and speaking learning is more effective", and 95.83% of students ($M=4.19$) agreed that various activities in the blended teaching model help to improve the level of English listening and speaking". In addition, blended listening and speaking learning was highly recognized for improving students' learning autonomy and teamwork ability, standing at 93.75% ($M=4.15$) and 95.83% ($M=4.27$) respectively . It is worth noting that blended listening and speaking learning is integrated with medicine-related TED-Ed videos learning. According to the questionnaire survey, 95.83% ($M=4.08$) of students agreed that "blended listening and speaking teaching is beneficial to improve medicine-related knowledge", and 93.75% ($M=4.04$) of students affirmed that "TED-Ed blended listening and speaking teaching promotes professional learning".

Finally, in terms of satisfaction with blended listening and speaking teaching, 95.84% of students derived satisfaction from blended listening and speaking teaching. Specifically, 95.83% ($M=3.92$) of students were satisfied with their gains in the blended listening and speaking teaching, and 95.84% ($M=4.31$) of the students were willing to recommend this blended listening and speaking learning model to others .

V. CONCLUSION

This research constructs a college English blended listening and speaking teaching model for medicine-related students in general universities in China, and verifies its effectiveness through empirical research. The research results reveal that the blended listening

and speaking teaching method can significantly improve the English listening performance of medicine-related students. In addition, the follow-up questionnaire survey shows that medicine-related students have a positive evaluation of the blended teaching model, including convenience, participation, effectiveness, and satisfaction.

The limitation of this study is that the experimental teaching period of the blended listening and speaking course is slightly shorter, lasting for only 12 weeks. In addition, the empirical study only examined the changes in the listening performance of medicine-related students, but did not look into the improvement of oral English. Future research can extend the experimental period of blended listening and speaking teaching, and comprehensively explore the positive effects of blended listening and speaking teaching methods on improving listening and speaking proficiency.

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