

A Study on the “SFL” Model of College English Blended Teaching in Smokeless Campus in the Post-epidemic Era

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Abstract: The sudden outbreak of COVID-19 has changed the teaching mode of colleges and universities, leading to the transformation of teaching philosophy and innovation of teaching technology. Based on this, the paper constructs the “SFL” model of college English blended teaching, namely “Spoc + Flipped classroom + Live broadcast”. Guided by New Constructivism, the model is characterized by independent inquiry, cooperative learning, teacher guidance and live broadcast interaction, breaking the traditional ways of teaching. The paper analyzes and discusses the experimental process and results of the first round of integrated English course under the model of “SFL”, in order to explore the effective ways of college English blended teaching under the good environment required by the public health of post-epidemic era, namely, smokeless campus, and provide reference for other colleges and universities.

Key words: Post-epidemic era; Smokeless Campus; blended teaching; “SFL” model

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INTRODUCTION

China has stepped into post-epidemic era and attaches great importance to the public health. So smokeless campus is the ideal and required environment to meet the external change, in which teachers and students can communicate in offline and online ways healthily.

During the COVID-19 pandemic, offline learning was completely moved online, achieving an unprecedented scale of online teaching. Teachers have used various online platforms and software to carry out live broadcast, recording, voice interaction and other teaching methods, with outstanding advantages and favourable results. Live classes, in particular, can encourage students

to interact more actively with teachers, meet their diversified needs, and stimulate their interest and enthusiasm in learning. This brand-new experience has changed the teaching mode of colleges and universities, and triggered the transformation of teaching philosophy and innovation of teaching technology.

In recent years, China has issued a series of educational policies to promote the development of modern education in an all-round way. In 2018, the Ministry of Education put forward the goal of promoting the renewal of educational ideas, the reform of models and the reconstruction of the system. In 2019, the “China’s Education Modernization 2035” issued by the CPC Central

Committee and the State Council put forward eight basic concepts, pointing out the direction for opening a new journey of educational modernization in a new era.¹ During the 2020 epidemic, the policy of "classes suspended but learning continues" has driven more courses to be deployed to the cloud platforms, further stimulating the development of online teaching models. Wu Yan, Director of the Higher Education Department of the Ministry of Education, said: "Online education should change from freshness to a new normal, and it is no longer possible and should not return to the state of teaching and learning before the outbreak." In October of the same year, the College English Teaching Guide (2020 Edition) was released, pointing out that in the era of information and intelligence, multimedia technology and big data artificial intelligence technology have become important means of foreign language education.² The implementation of blended teaching model enables students to develop in the direction of active learning, autonomous learning and personalized learning.³ Under this background, the reform of teaching mode in higher education is bound to be achieved. The blended teaching with the technology of "Internet +" and "Intelligence +" has become a new way of college English teaching reform.

Based on this, this study constructs a "SFL" blended teaching model which combines Spoc, flipped classroom and live broadcast, in order to analyze and discuss whether this model can improve the comprehensive English proficiency and autonomous learning ability of non-English majors, which in turn will verify the feasibility and effectiveness of the model. The first round of this experiment has been carried out in the experimental school with the data collected.

OVERVIEW OF BLENDED TEACHING RESEARCH

Blended teaching combines the advantages of traditional teaching mode with those of E-learning (i.e. digital or network learning),⁴ that is, it integrates the traditional offline teaching mode and the online autonomous learning mode, so that they

can empower and complement each other, and finally achieve a teaching model with high efficiency and low cost.⁵

Foreign studies

At present, foreign scholars' researches on blended teaching are relatively mature: Kearsley⁶ pointed out that blended teaching can not only play the leading role of teachers in guiding, enlightening and monitoring the teaching process, but also fully reflect the initiative of students as the main body of the learning process. Driscoll⁷ believed that blended learning is to mix or integrate a variety of teaching models, such as micro-class, flipped classroom, MOOCs, etc., to achieve educational goals... Combined with a variety of teaching methods, such as mobile learning, heuristic inquiry, discussion, etc., the use of digital information technology can produce the best learning results. The multimedia teaching methods such as audio, video and movie clips are integrated in teachers' classroom teaching in order to enrich the learning content and improve the learning effect. Harvey Singh⁸ found that the combination of traditional teaching models and social media software can stimulate students' interest and interaction online, which is convenient, fast and efficient. Plana et al.⁹ found that the use of social software such as Whats App to train students in reading can significantly improve their reading ability.

Domestic studies

Domestic scholars have also made continuous attempts, especially in the last 10 years, with remarkable achievements: Ma Wulin¹⁰ theoretically discussed the blended learning method of college English based on Web2.0 platform. Zhang Yun¹¹ put forward the interactive model and support system model of blended learning, and expounded how to integrate online learning with classroom English teaching through multiple interactions. Wang Yi¹² found that the blended teaching model can promote the English writing level. Zhang Huan¹³ believed that blended teaching has a wide range of significance, and any element in the teaching system can be mixed. She also discussed the mixing of teaching methods,

learning models, teaching resources and so on, in order to achieve teaching optimization. Zhang Meichao et al.¹⁴ believed that the accurate push notification and voice interaction function of Wechat public platform provide technical support for college English blended learning. Gan Ye¹⁵ believed that the teaching mode of "online interactive class + traditional classroom" can stimulate students' learning motivation and realize the value of student-centered teaching. Wang Yongqin¹⁶ analyzed the blended learning model of college English, which combines the cloud class platform under the guidance of POA(Production-Oriented Approach) and the traditional teaching model. The research showed that it has a significant learning effect.

Through the research, we find that the application of blended teaching in college English teaching has become a trend, and a large number of speculative and empirical studies have emerged and achieved certain results. But there are still deficiencies. Most studies are based on "MOOCs + flipped classroom" model or "the traditional classroom + Spoc" model. Few studies put forward "Spoc+ flipped classroom" integrating online live broadcast into blended teaching for empirical discussion. Based on this, the "SFL" model of college English blended teaching in the post-epidemic era constructed in this study is characterized by independent inquiry, cooperative learning, teacher guidance and live broadcast interaction, and will push online education to a normal development. At the same time, through empirical research, we can further verify the feasibility of the model and the effectiveness of students' learning.

THEORETICAL BASIS

The theoretical basis of "SFL" model is New Constructivism Theory. New Constructivism is based on a unified subjective and objective epistemology and an educational thought which combines teacher-dominant and student-subject.¹⁷ It not only emphasizes the cognitive subject status of students in the learning process, but also stresses the leading role of teachers in all aspects of teaching.

New Constructivism is gradually developed on

the basis of reflection and criticism of Constructivism. As early as in the 1960s, the Swiss psychologist Piaget¹⁸ laid the theoretical foundation of Constructivism, drawing on the essence of Bruner's¹⁹ Cognition-Discovery Learning Theory, Osbel's²⁰ Theory of Meaningful Learning and Vygotsky's²¹ Historical and Cultural Psychology Theory. But it wasn't until the 1990s that the theory really caught on around the world, thanks to the rapid spread of internet technology and multimedia teaching. Constructivism emphasizes the importance of situation in the learning process, and believes that a good learning environment is conducive to learners' independent inquiry, collaborative communication and the ultimate construction of meaning. The rapid development of the information age provides strong material and technical support for the learning environment advocated by Constructivism.^{17,22} Conversely, the current network learning, blended teaching, and the deep integration of information technology and curriculum which set off a global upsurge, also benefit from the guidance of Constructivism Theory.

It is undeniable that teaching under the guidance of Constructivism can indeed cultivate students' independent consciousness and innovative spirit, but with the change of ideas in the international educational circle, there are different voices in the academic circle. Chinese scholars have also reflected on the development of educational technology at home and abroad in the past 10 years, and believed that Western constructivists have always claimed that the teaching process is student-centered which is in line with John Dewey's child-centered educational thought.¹⁷ This view of learning is based on pure subjectivism epistemology, that is, knowledge is self-constructed by learners relying on personal experience, rather than by teachers, so they adhere to the dominant position of taking students as the center. This epistemology denies not only the objectivity and teachability of knowledge, but also the enlightening and guiding role of teachers. In fact, Cognitivism holds that meaning construction is based on people's interactive embodiment with reality and cognitive processing, and it is the product of subjective and objective combination.

Under the guidance of Constructivism, all aspects of learning cannot be separated from the guidance of teachers, such as the creation of situations, the provision of information resources, the design of autonomous learning strategies and so on.

Therefore, New Constructivism takes a step forward for it also takes teachers' role into consideration. The thought of “teacher-dominant and student-subject” is the essence of New Constructivism, which is also the main basis for us to construct the “SFL” model of blended teaching. The “SFL” model of college English uses a variety of information means to optimize the teaching environment, create an intelligent language learning ecology, and inspire students to carry out independent inquiry and collaborative learning under the organization, guidance and promotion of teachers.

THE CONSTRUCTION OF “SFL” MODEL IN COLLEGE ENGLISH BLENDED TEACHING

The definition of “SFL”

In accordance with the spirit of the Guide, the experimental school has sufficient means of informatization: at present, it has ten language laboratories and one Foreign Language Autonomous Learning Center. The school also purchased the “i-Write English Writing System” developed by the Foreign language Teaching and Research Press and the “Superstar Learning Platform” developed by Beijing Century Superstar Information Technology Development Co., Ltd. Besides, the textbooks are equipped with the “New Concept Foreign language Network Teaching Platform” provided by the publishing house. Under such a favourable condition, the “SFL” model can be constructed which is defined as follows:

(1) S= Spoc (small private online course)

Spoc is characterized by small scale, high depth and strong pertinence. It can provide students with an ideal environment for personalized learning and in-depth knowledge construction. This is also advocated by New Constructivism: the construction of knowledge is carried out in the interaction between learners and the environment, so a good learning environment is conducive to students'

self-construction of knowledge. Spoc can rely on the cloud learning environment, data analysis, intelligent feedback and other functions of MOOCs platform to serve small-scale students (such as one class). The ways of resource construction on Spoc are also flexible and varied. Teachers can create theme related situations by means of introduction, self-construction and transformation, so as to provide necessary resources to assist students in self-inquiry learning.

(2) F= Flipped classroom

With the help of Spoc, the flipped classroom becomes possible. The knowledge delivered in the traditional classroom can be made into teaching videos and other resources for students to have autonomous studies before class, while in class, knowledge is applied and internalized in the form of output activities and collaborative learning. Through teacher-student interaction and student-student cooperation, the old schema can be activated, and the integration of new and old knowledge is effectively realized, thereby constructing a more comprehensive and accurate meaning. It can be seen that the flipped classroom teaching model is also in line with the collaborative inquiry learning emphasized by New Constructivism. Learning is a kind of social experience. It first constructs meaning through independent thinking, then improves the construction of meaning through cooperation and communication with others, and finally constructs a collective meaning that can be shared on a larger scale.²³ Evidently, the flipped classroom based on Spoc is an effective way to achieve this goal.

(3) L= Live broadcast

The view of educational system holds that teaching is an integrated process of preparation, implementation, evaluation and modification, and the result of pursuit is overall optimization.²⁴ Therefore, teaching is a complete ecosystem, and the end of the teaching cycle is not simply marked by the end of the class. Online live broadcast is the continuation of teaching, and it also embodies the characteristics of collaborative inquiry learning. Live streaming is real-time video, emphasizing what is actually happening online. With the characteristics of convenience, fragmentation, mobility and socialization, it meets

the requirements of the times and students' habits¹⁵. Since the epidemic, live broadcast has rapidly become a new way of learning. Teachers and students can have more free and in-depth interaction without being limited by time and space. Therefore, integrating live broadcast into the whole educational ecosystem is a supplement to and development of blended teaching.

Framework Design

The “SFL” model of college English blended teaching in the post-epidemic era is still based on the four elements of curriculum framework. The model consists of four parts:

(1) Teaching objectives

The “SFL” teaching model integrates diversified learning spaces and creates an atmosphere of independent thinking, collaborative inquiry and emotional flow for learners so as to improve their comprehensive English proficiency, cross-cultural communication ability and autonomous learning ability, at the same time, cultivating their innovative consciousness and cooperative spirit.

(2) Teaching content

The new “SFL” teaching mode is based on the textbook of “New College English Integrated Course”. It will make use of the functions of Spoc platform such as language explanation, online practice, test and review, combined with teachers' enhancement and extension of knowledge in class, and regularly carrying out online lectures after class so as to promote the sustainable development of learners.

(3) Teaching process

The model is divided into two aspects: online and offline, and consists of three dimensions: pre-class, in-class and after-class.

Before class (online): Teachers will release learning tasks and share the teaching content in the form of Spoc on the digital platform, while students carry out independent inquiry learning.

In class (offline): Flipped classroom is realized. Teachers will answer questions and expand the analysis on the important and difficult points. Students will take the form of cooperative learning to have discussions, exchange ideas and demonstr

ate their achievements.

After class (online): Teachers will assign homework and conduct live broadcast at intervals. The content of online teaching can be an in-depth discussion with students, or lectures on a specific topic. In a word, the ways that students enjoyed during the epidemic should be continued to maximize the teaching effect.

(4) Teaching evaluation

“SFL” model + digital platform (Superstar Learning Platform + i-Write) focus on positioning evaluation, formative evaluation and diagnostic evaluation, supplemented by summative evaluation. The platform will generate synchronous, asynchronous and objective evaluation mechanism through technical analysis to reflect the learning process in a three-dimensional way, helping students to improve their learning strategies and enhance their autonomous learning ability. Teachers can also improve their teaching designs.

The “SFL” model from the perspective of New Constructivism can better realize the “equal emphasis on learning and teaching” and further enhance the teaching effect and learning efficiency of college English.

EMPIRICAL RESEARCH BASED ON THE “SFL” MODEL

Sample selection

The study was carried out in the pilot school for one academic year from September 2020 to June 2021. The subjects were freshmen of grade 2020. Four experimental classes and four control classes were selected by stratified sampling, with a total of 392 students. The following two factors were considered in the sample selection: the first one is for students. Since the majors recruited by the experimental school are divided into key majors and general majors, we selected 2 key undergraduate classes and 2 general undergraduate classes in each of the two groups considering the representativeness of the samples. At the same time, the number of students in the experimental class is the same as that in the control class, with little difference in the distribution of students' origin. And the proportion of male to female is

roughly the same. The second one is for teachers. Teachers with similar educational background, teaching experience and teaching effect were selected to eliminate the influence of irrelevant variables on experimental results as far as possible, so as to enhance the credibility of experimental results.

Research methods

During the experiment, quantitative and qualitative analysis of the validity of the “SFL” model was carried out. At the beginning of the school year, the test papers were given at the preparatory level while at the end of the year, the CET-4 test papers of June 2021 were used. In order to ensure the reliability and validity and avoid the interference of human factors, the subjective questions were marked by the teachers of this research. The pre-test and post-test data were statistically analyzed by SPSS21.0 software to compare the score difference between the experimental group and the control group. At the same time, a “Questionnaire on College English Teaching Mode” was compiled, including students’ basic personal information and evaluation of teaching effect, which were distributed and collected in class at the end of the term, and the data was sorted out and analyzed.

Research process

The study takes the reform of college English integrated course as the pilot. The experiment lasted for one academic year which was composed of two semesters with 16 weeks per semester and 2

class hours per week. The textbook of “New College English Integrated Course” was used in both the experimental class and the control class. At the beginning of school in September 2020, freshmen were given an English test at the preparatory level, including listening, reading, cloze and writing, with a full score of 100. Teachers collected pre-test data.

In the process of teaching implementation, the two models were operated as follows:

(1) The control class--- the traditional model: the control class was still carried out step by step in accordance with the traditional teaching mode, which was mainly taught by teachers and characterized by “transmission and acceptance”. Students primarily relied on teachers’ explanation and textbooks to acquire knowledge.

(2) The experimental class--- the “SFL” model: the experimental class teaching was divided into four dimensions, namely offline teaching, online teaching, offline learning and online learning, and three time periods: pre-class, in-class and after-class. Teachers have provided feedback and evaluation on students’ learning results and effects based on their online studies, testing, evaluation and offline learning reports, presentation and other activities, which were recorded in students’ electronic files to help them diagnose their problems and stimulate their learning enthusiasm, as shown in Figure 1:

In addition, the “New Concept Foreign language Network Teaching Platform” and “i-Write English Writing System” were suitable for all the students.

The “SFL” Model

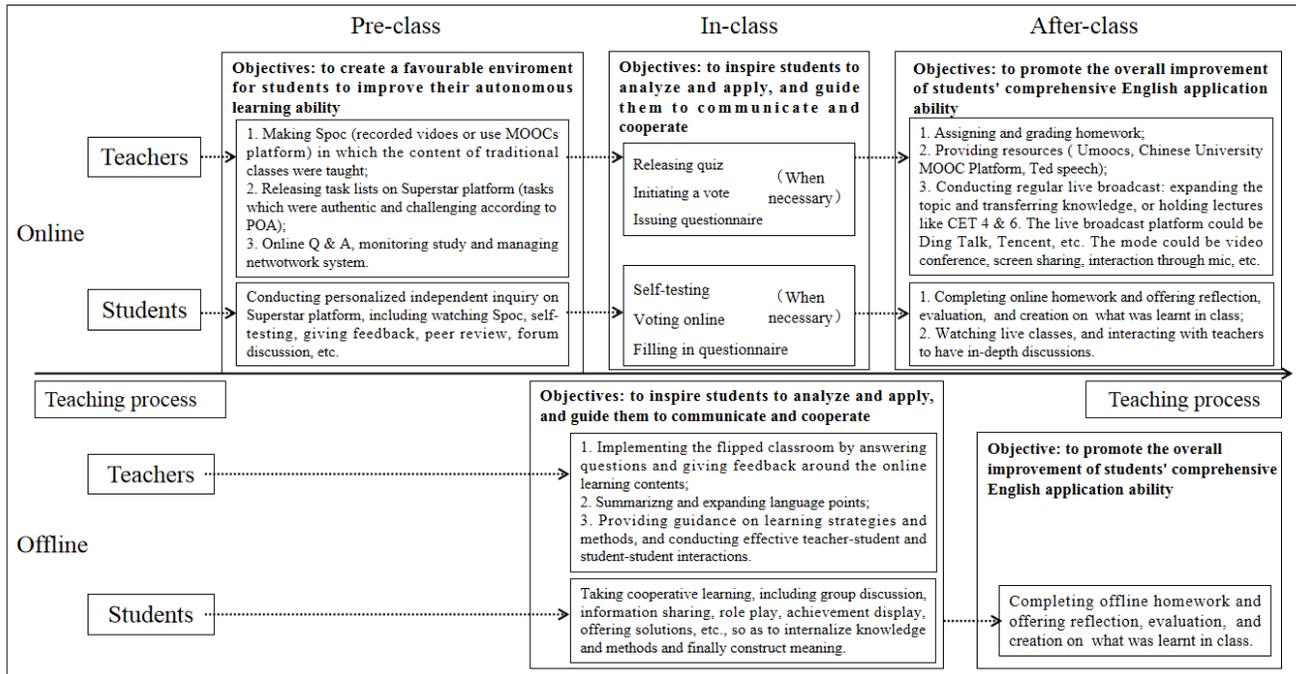


Figure 1

The “SFL” Model

At the end of the school year in June 2021, the teachers handed out 392 “Questionnaire on College English Teaching Mode” in class, with 390 valid questionnaires collected. The questionnaire was designed in the form of a five-level Likert scale, and the options were “strongly disagree”, “disagree”, “uncertain”, “agree” and “strongly agree”, with a score of 1-5 points respectively. At the same time, the students were tested again with CET-4 papers in June 2021, including writing, listening, reading and translation, with a full score of 710.

Data processing and analysis

Teachers sorted out the questionnaires, built up a corpus, and used SPSS21.0 software for statistical analysis. The results of the questionnaire are shown in Table 1 (the experimental class) and table 2 (the control class). The contrast of pre-test results between the experimental class and the control class is shown in Table 3, and the contrast of post-test results is shown in Table 4. (Since the data sample is not big, it is representative to some degree.)

Table 1
Results of Questionnaires on College English Teaching Mode
(The Experimental Class)

Questions	M	SD	RR
(1) Students in this English class are greatly motivated.	4.12	0.64	85.0%
(2) Students are highly participatory and can carry out cooperative learning.	3.92	0.78	80.4%
(3) I can log on to the autonomous learning platform on time and complete tasks independently.	4.15	0.66	88.5%
(4) The content of autonomous learning platform is suitable for my current level and needs.	3.54	0.89	68.5%

(5) Teachers can timely monitor learning, grade homework and give feedback.	3.96	0.76	83.5%
(6) The teaching content is rich in knowledge and diverse in form.	3.88	0.75	79.2%
(7) Teachers are good at using teaching aids, like multimedia, network and other modern educational technology.	4.08	0.67	85.8%
(8) Teachers provide rich English learning resources after class.	4.04	0.65	86.9%
(9) I think the current English teaching mode is very good.	3.85	0.66	76.1%
(10) I think my English has been improved.	3.62	0.74	70.2%
Note.			
M= mean value; SD= standard deviation value; RR= recognition rate			

Table 2			
Results of Questionnaires on College English Teaching Mode			
(The Control Class)			
Questions	M	SD	RR
(1) Students in this English class are greatly motivated.	3.50	0.89	64.8%
(2) Students are highly participatory and can carry out cooperative learning.	3.08	0.87	41.7%
(3).I can log on to the autonomous learning platform on time and complete tasks independently.	3.92	0.67	79.4%
(4) The content of autonomous learning platform is suitable for my current level and needs.	3.23	0.80	48.8%
(5) Teachers can timely monitor learning, grade homework and give feedback.	2.92	0.78	36.8%
(6) The teaching content is rich in knowledge and diverse in form.	3.54	0.75	63.0%
(7) Teachers are good at using teaching aids, like multimedia, network and other modern educational technology.	3.69	0.67	72.9%
(8) Teachers provide rich English learning resources after class.	3.50	0.75	56.2%
(9) I think the current English teaching mode is very good.	3.15	0.77	40.2%
(10) I think my English has been improved.	3.04	0.94	38.0%
Note.			
M= mean value; SD= standard deviation value; RR= recognition rate			

It can be seen from Table 1 and Table 2 that the data of the experimental class and the control class differs greatly. Questions (1) and (2) of the questionnaire investigate the students' classroom activities. On the whole, the experimental class has a high degree of participation, which benefits from the cooperative inquiry learning. Questions (3) and (4) examine students' evaluation of autonomous learning. The results show that about 80% of the students can make full use of the platform, which indicates

that students have a clear understanding of the importance of autonomous learning, but the learning content needs to be further optimized. Because the experimental class not only studies on the “New Concept Foreign language Network Teaching Platform”, but also carries on autonomous learning on Superstar Learning Platform, so the recognition rate is much higher than that of the control class. Questions (5) to (8) examine the teaching contents, resources, methods and means. Since the experimental class uses the

Superstar Learning Platform to realize the flipped classroom, teachers can monitor learning process at any time. The teaching designs are rich and novel, the information means flexible and diverse, which accords with the learning characteristics of youths born after 2000s. So the recognition rate of the experimental class reaches 80%, while the rate of the control class was obviously on the low side. The last two questions are about students’ evaluation of the teaching mode and learning effect. It is not hard to see that the experimental

class has a higher overall evaluation and they feel good about themselves, while less than half of the students in the control class hold a positive attitude.

This questionnaire can make a point to some extent although the data sample is not big: compared with the traditional way, the “SFL” model is more suitable for English teaching in experimental school, for it can arouse students’ initiative and enthusiasm in English learning.

Table 3
The Contrast of Pre-test Results Between the Experimental Class and the Control Class

Items	The Experimental Class		The Control Class		T-value	P-value
	M	SD	M	SD		
Listening	13.54	2.73	13.91	2.80	-1.14	.083
Reading	25.72	3.65	25.23	3.71	0.79	.114
Cloze	10.27	2.86	10.85	3.02	-1.52	.327
Writing	17.85	2.42	17.47	2.85	1.63	.056
Scores	67.38	7.02	67.46	7.21	-0.95	.132

Through the T-test, it is found that the absolute values of T-values in listening, reading, cloze, writing and total scores are all less than 2.00 in the experimental class and the control class before the test. There is no significant difference between the

two classes ($P > 0.05$). This shows that before the “SFL” model experiment, the English proficiency of the students in both classes are basically the same, and the total score of the control class is slightly higher than that of the experimental class.

Table 4
The Contrast of Post-test Results Between the Experimental Class and the Control Class

Items	The Experimental Class		The Control Class		T-value	P-value
	M	SD	M	SD		
Writing	74.06	12.77	70.21	11.12	2.16	.038
Listening	165.24	23.65	148.06	21.03	4.07	.004
Reading	181.15	20.16	169.35	18.46	3.52	.006
Translation	71.42	11.25	67.14	9.62	2.87	.031
Scores	491.87	43.83	454.76	33.25	4.34	.023

The T- test shows that the absolute values of T-values in

writing, listening, reading, translation and total scores of the experimental class and the control class are all greater than 2.00. There are significant differences between the two classes ($P < 0.05$). This indicates that after the implementation of the “SFL” model, the English proficiency of the students in the experimental class is significantly improved, and is much higher than that of the control class.

DISCUSSION

After one year of experiment, the “SFL” teaching model has achieved initial results. The item scores and total scores of the experimental class are generally higher than those of the control class, which is consistent with the satisfaction of students in the questionnaire. This shows that the new teaching method is effective and can improve students’ comprehensive English level. Through the analysis, we make the following points of reflection and summary.

(1) To integrate new ideas and methods into teaching

Under the guidance of New Constructivism, the “SFL” model adheres to the basic principle of “teacher-dominant and student-subject”, which breaks the “transmission-acceptance” way with teachers as the center in the traditional class. In the new model, teachers gradually change their roles into class organizers, designers, guides and co-participants. On the other hand, students are no longer constrained. They can enjoy learning and give full play to their initiative and enthusiasm.

“SFL” blended teaching also incorporates modern information technology to improve the teaching methods and reshape the teaching environment. By combining Spoc, flipped classroom and live broadcast, the new model has achieved the seamless connection between online and offline courses, which not only ensures the learning effect of limited time in class, but also solves the problem of time-space separation between teachers and students in the MOOCs environment after class. It creates a vivid and authentic language environment for students and provides opportunities for independent exploration and collaborative communication. At the same time, it

respects individual cognitive and emotional differences by implementing personalized strategic guidance for students, which stimulates their maximum potential and motivation for learning.

Foreign language learning is not a passive response to the target language, but an active construction of a meaningful learning experience for oneself.²⁵ Only when it is a meaningful input for students, they will value, process and internalize it. Therefore, the audio, video and graphic materials selected and supplemented in the new model are rich and diverse, mostly involving hot social issues and topics related to students’ experience, which can better arouse their resonance and thinking. Moreover, the multimodal teaching can engage students’ visual and auditory senses, stimulate their learning motivation, thus enhancing their understanding of the content. It is in the open intelligent learning environment that students can integrate what they have learned with the original cognitive structure and internalize knowledge and methods through active exploration and application, together with teachers’ enlightenment and strategic guidance, so as to improve their English proficiency as a whole.

(2) To cultivate innovative and cooperative talents

The “SFL” teaching model meets the requirements of our country for talent training in the new era, that is, to cultivate innovative and cooperative talents. The traditional foreign language teaching in China is based on the practice and reinforcement of behaviorist theory and the imparting of language knowledge based on cognitive theory.²⁶ Under the guidance of the theories, a large number of knowledge-applied talents, rather than innovative talents have been cultivated in the field of education over the years. At present, the fierce international competition has an increasing demand for innovative talents, and the spirit of innovation and cooperation are the necessary qualities of talents in the 21st century, which has become the basic consensus of the international education community. Among many educational theories, New Constructivism emphasizes independent construction, autonomous inquiry, cooperative learning and mutual benefit, which is conducive to the cultivation of students’

innovative thinking and cooperative spirit.

The “SFL” model, under the guidance of New Constructivism, is also actively exploring and trying towards this goal. Whether it be a Spoc before class or a live broadcast after class, teachers will make full use of modern information means to create a good learning environment for students, providing rich and targeted resources to satisfy their personalized needs. And as is known to all, the development of free and independent personality is also the prerequisite for the development of innovative talents.

In the flipped classroom, the analysis, evaluation, application and expansion of knowledge guide students to internalize knowledge and explore broader unknown fields. Such exploration requires not only personal innovation, but also the spirit of cooperation. New Constructivism emphasizes cooperative learning. Cooperative learning aims to organize learning activities into academic and social learning experiences.²⁷ It has the advantages of building positive interdependence, enhancing individual and group responsibility, promoting interactive group cooperation, and storing interpersonal communication skills.²⁸ It can be seen that cooperative learning helps to stimulate students’ active communication and effective learning. In the classroom, teachers, as facilitators, build “scaffolding” and provide strategies for students. Students, driven by problems, tasks or projects, share information, assign roles, discuss plans, and display results. Throughout the process, students gain academic and social learning experiences and become contributors and creators of knowledge and information.

The study found that effective classroom cooperation can improve students’ sense of participation and directly affect their performance.²⁹ The “SFL” model has verified the feasibility of itself through the first round of experiments. The students, while experiencing and enjoying learning, have not only improved their autonomous learning ability and English proficiency, but also cultivated a sense of innovation and the spirit of cooperation.

(3) To improve translation and writing skills and promote balanced development

gh the “SFL” model has achieved preliminary results, it still has some deficiencies to be further solved. Through the post-test data, it is not difficult to find that the experimental class has 37.11 points more than the control class, and the improved scores mainly come from listening and reading, with only 3.85 points for writing and 4.28 points for translation, which are hardly comparable with the other two items. When analyzing the reasons, we have found the following two points worth thinking about:

First, the “SFL” model uses multiple information platforms to achieve online and offline blended teaching, creating a diversified learning environment for students. Whether it is multimedia teaching in the classroom or autonomous learning after class, students have access to rich, interesting and practical resources, such as bilingual news, high-quality videos, online dictation, word punching, fast reading and various live broadcast platforms, all of which are in line with the characteristics of youths born after 2000s who are used to using network technology for information exchange and interpersonal interaction. Therefore, a suitable learning environment can stimulate students’ motivation, and they are willing to spend their time in listening, speaking and reading. However, translation and writing are more difficult. They can better test students’ language ability. Students need to invest a lot of time and energy to persevere in order to make progress. In the teaching of the experimental class, we have held four online seminars on writing and translation this academic year, explaining the basic skills and strategies, and assigning relevant exercises. But, from the feedback of students, the overall effect is not obvious, and only a small number of students have improved greatly. The author randomly communicated with 10 students and found that the students affirmed the online lectures, believing that the contents were very practical and helpful to study. They could realize the importance of translation and writing, but at the same time, they complained about its difficulty and were afraid of it. Besides, they had heavy professional tasks, so they didn’t want to spend much time on writing and translation. Therefore, it’s natural that the improvement in writing and translation is not obvious.

Althou

Second, after reflection, we think that the course needs to be properly adjusted in the second round of the experiment. Writing and translation can be arranged for 1-2 times of online and offline blended teaching. Take writing as an example. Before class, teachers specify hot topics of CET-4, and students collect sentences and paragraphs with beautiful words and authentic expressions from relevant materials to share them on the network platform. In class, teachers divide students into different groups and assign them tasks. The team members collaborate to explore and select the required sentences from the corpus they created, and modify, link and polish the sentences with the presentation of final outcome. In the whole process, teachers encourage other students to ask questions and have discussions, and they make some comments. The same approach can be also applied in the translation class. It is believed that such a method can eliminate students' worries and fears as well as arouse their motivation and enthusiasm. Only when the internal causes of students have changed can there be some substantial progress.

At the same time, teachers should take translation and writing resources into account when preparing rich audio-visual materials. For example, they can provide students with writing and translation tutorials (e-books also) suitable for their levels, and select high-quality online courses on the Chinese MOOCs Platform for them to have systematic studies. In this way, students can build their self-confidence, and make progress step by step. In a word, teachers should effectively select resources, optimize the teaching structure, ensure the full coverage of teaching contents, and promote the balanced development of students.

CONCLUSION

The “SFL” teaching model provides a new direction and path for college English reform under the trend of college English credit compression and class hour reduction. This model, characterized by Spoc, flipped classroom and live broadcast online, not only breaks the traditional teaching concept of teacher-centered, but also improves the personalized design of blended teaching in the network environment. It is true that

the “SFL” model has achieved certain results in the first round of experiments, but as mentioned above, how to improve students' writing and translation skills and promote their balanced development is an urgent problem to be solved in the second round of experiments. At the same time, the follow-up research should also include the pre-test and post-test data of oral English to make the assessment more comprehensive and objective. In today's world of information globalization and diversified education, the construction of a teaching model of mutual cooperation and individual intelligence can better meet the needs of students. The “SFL” model thereby, integrating new teaching concepts and methods, will cultivate students' awareness of autonomous learning and give full play to their spirit of innovation and cooperation, so as to improve their comprehensive English proficiency. At the same time, in the context of the global epidemic, public health safety is put on the agenda. Creating a harmonious, healthy and smokeless campus environment can ensure the normal and orderly development of teaching, and the “online + offline” teaching advocated by the “SFL” model is in line with the national policy and the needs of the times. In conclusion, the “SFL” model will promote the ecological development of education, helping students to achieve the goal of lifelong learning in a favourable, smokeless environment.

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