The Model Construction of Human-computer Interaction Teaching in College English Multimodal Teaching

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Abstract: *With the rapid development of higher education in China, the traditional English teaching mode no longer meets the needs of modern learning of college students, and it is gradually urgent to reform the college English teaching mode. For this reason, contemporary colleges and universities are carrying out their own innovations. They are guided by English theory and practical teaching experience, combined with innovative educational ideas, and put forward various English teaching models. The ultimate purpose of these teaching modes is to promote college students to learn English better. In order to prove the feasibility of the application of human-computer interactive teaching in English teaching, this paper makes a thorough discussion on it. The results show that the application of human-computer interactive college English teaching mode to classroom knowledge of English language knowledge has improved the mastery rate of classroom knowledge by about 26%. The correct rate of English application skills (i.e. social behavior norms used in social practice) has increased by 27%, and the correct rate of nonlinguistic norms used in cross-cultural communication has increased by about 25%. This shows that human-computer interaction teaching is completely applicable to College English teaching today, and it is very helpful to improve college students' comprehensive ability, social life and practical ability, as well as their subjective initiative.*

Keywords: *College English Teaching, Man-machine Interactive Teaching, Cross Cultural Teaching, Construction of Interactive mode, Traditional Education Mode*

1. Introduction

Language is the representation of human thought, and thinking and the performance of thinking are human spiritual activities. Language and culture are a philosophical connection that influences each other. In the field of college English teaching, cultivating college students' English cultural awareness is the ultimate goal of learning English. When mentioned the teaching English in the university, people divide the planning of English teaching content into four aspects: English knowledge, English application skills, English learning strategies, and multicultural communication. Among them, multicultural communication is cross-cultural communication, the main purpose of which is to pass the relevant knowledge of multi-culture to college students, so that they can better understand and use English, so as to achieve the practical application of English. Traditional college English teaching are teacher-driven teaching activities, instilling English knowledge into students' memory, making it adapt to the needs of college students for exams. Therefore, it is difficult to effectively apply English in daily life and work, especially in spoken English, and its practical application effect is not ideal. These problems make it difficult to implement the traditional English teaching mode effectively. To solve these problems and promote the sound development of English education, more and more scholars have begun to discuss some problems in the current English teaching, and put forward the idea of cross-cultural interactive teaching mode. To test the application of this model to college English teaching, many scholars are conducting in-depth discussions.

As an English teaching mode that is easier for students to develop under the current background, the cross-cultural interactive teaching model has attracted many scholars to study it. Zhang H's main research is based on the construction of the corpus-based college English teaching model and its teaching platform. It has been proved by practice that the establishment and design of a corpus based on the university play a bigger role in English teaching [1]. Guo X mainly studied applying data mining to university English teaching quality analysis and showed that the Apriori algorithm was applied to the

quality analysis of college English teaching. It can not only quantify the impact of various teaching factors on the quality of student learning, but also provide the basis for subsequent research on the quality of university English teaching [2]. Xu Q mainly studied moral education and English teaching and showed that comprehensive English teaching and non-English majors have a synergistic effect [3]. Yang T mainly studied the mechanism of artificial intelligence: natural language processing and big data mining, and proposed an English teaching model that combined English teaching and artificial intelligence [4]. The research focus of these scholars is basically on the college English teaching model, but there are still limitations. In order to solve the shortcomings of these scholars in the research direction, some scholars have focused their studies on cross-cultural interactive teaching. Ahn S mainly studied the cross-cultural teaching experience of American student teachers in Korean high schools and showed that interactive teaching can prepare the future classroom for culturally responsive teaching [5]. Zhu X mainly studied the application, which was a feature of SPOC-based flipped classroom in cross-cultural second language teaching, and achieved the goal of flipped classroom centered on students and supported by teachers from educational design, educational cases, learning evaluation and evaluation to course evaluation [6]. Guo W mainly studied the interactive teaching system of college basketball action based on the online and offline mixed teaching mode and showed that the mixed teaching mode can be used to improve students' academic performance [7]. Wen mainly studied the teaching method of pharmacy management through interactive teaching model and showed that the interactive teaching model can better combine the theoretical study and practice of pharmacy management. It greatly promoted students' participation in learning and improved students' enthusiasm and teaching effect [8]. The research directions of these scholars are mostly in the application of interactive teaching mode and cross-cultural teaching method in teaching. Few scholars conduct research on the combination of the two, especially in the field of college English teaching. This means that cross-cultural interactive teaching is basically a new field in college English teaching mode, which is urgent to explore it.

It takes the cross-cultural interactive teaching mode, which can be the main subjects of the conducted study in-depth research on the construction of college English teaching mode. Through the previous researches of scholars, it can be known that the application of cross-cultural interactive teaching in teaching is extremely extensive, and it has ability to provide people's research. On this basis, the in-depth study of proves that cross-cultural interactive teaching is feasible because of its unique advantages in the construction of college English teaching mode.

2. College English Teaching of Cross-cultural Interactive Teaching

In order to deeply study the role of cross-cultural interactive teaching in the construction of college English teaching mode, it is first necessary to understand its relevant information. This section mainly introduces related information and overview.

2.1 College English Teaching Mode

2.1.1 Overview of College English Teaching Mode

Some scholars believe that teaching mode is ways of learning, which can help students acquire information, ideas, skills, values, ways of thinking and expressions [9]. In the eyes of some Chinese scholars, the teaching mode is to see people's work as a reflection of students' learning, and to continuously improve their abilities. The teaching mode is the way of learning, and its primary task is to cultivate efficient learners [10]. The components of the teaching model include guiding ideology, goals, steps, content, strategies and assessments [11]. As for English teaching, some people think that according to the classification of English teaching, it can be divided into two levels: macro level and micro level. The macro methods include: foreign grammar - translation, listening, speaking, direct method, whole body response method, communicative language teaching method, natural method, etc. The micro teaching mode refers to teaching in the classroom, for example: China's "16-character English teaching method", "24-character English teaching method", "Trinity English teaching method", "Four-in-one English teaching method", "English cross teaching method" and so on. The micro-example of English teaching is the so-called "classroom". However, the focus of this study is on the micro-patterns of English teaching models, that is, the classroom teaching model.

The traditional English teaching method in colleges and universities mainly analyzes by using abstract and out-of-context sentences, so that students can carry out reasonable grammatical analysis and then translate between English and Chinese [12]. Most of the time, most students only learn some

scattered grammar knowledge, and their understanding of the whole text is very limited. So all they get is something ethereal. It cannot be called from the mind when it is used, nor can it be migrated to use in a new situation. Figure 1 shows the traditional college English teaching mode:
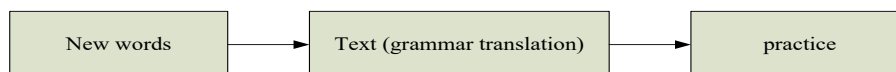
New words → Text (grammar translation) → practice

Figure 1: Structure of traditional college English teaching mode

As seen from Figure 1: the entire course process is the explanation of new words (with reading, self-reading, correction, the use of key words and phrases). Text description (text introduction, read aloud by students and teachers in turn, and translated verbatim), and finally homework. This is a typical test-oriented teaching method. In this kind of teaching, there is a lack of communication between teachers and students, there is no cooperative learning, and the atmosphere in the classroom is rather dull. Students are forced to study, forced to listen to teachers. This method makes it difficult to improve students' language creativity and language communication ability. What's more, students' enthusiasm for learning has been weakened. However, college students have mastered the basic knowledge of English in high school, have a certain understanding and autonomy, and have a relatively low degree of dependence on teachers, strong independence, and obvious subjectivity. And most of the students' thinking has changed, and English learning has changed from reactive to proactive. The traditional English teaching mode has been difficult to meet the demand of college students for English. Therefore, it is extremely important to innovate the traditional teaching methods implement the "people-oriented" teaching mode.

2.1.2 Problems in College English Teaching

Over time, there are three problems in traditional college English teaching: weak awareness of cross-cultural teaching, unreasonable teaching methods and lack of cross-cultural practice [13]. First, lack of concept of cross-cultural teaching. As the above mentioned, teachers often pay too much attention to the learning of English vocabulary, grammar and sentence patterns in the texts, and the content of culture is not involved. Therefore, the teachers seldom explain the cultural differences and similarities to them. On the other hand, because teachers have relatively little understanding of Western cultural knowledge, they cannot adapt well to the needs of students. So when students ask questions, they tend to be perfunctory. Second, teaching methods are not scientific. Although English textbooks cover a wide range, most of them are rather difficult in language to college students. Therefore, teachers have to shift the focus of learning to vocabulary and grammar, hoping to improve their English ability through a lot of practice. In fact, as a language, if people really want to learn English, people must not memorize it by rote; otherwise it will make people bored, which is also a defect of English teaching. The structure of English is sentence and grammar, and culture is part of the content of English. If people understand its meaning, people can flexibly match the structure and make English teaching more effective. Third, lack of cross-cultural practice. Language is the main means of communication for human beings. People express their thoughts through language and improve their ability to use them through practice. College students speak Chinese every day. Only in the English classroom can they learn English and use English correctly under the guidance of teachers. However, due to the excessive content of English courses, teachers often emphasis on theoretical knowledge, lack of practical practical activities, and do not create a cross-cultural communication environment for students. Students' understanding of multi-culture is too superficial to conduct cross-cultural learning.

2.2 Cross-cultural Interactive Teaching

2.2.1 Overview of Cross-cultural Teaching

Cross-culture is a correct understanding of the contradictory cultural phenomena, customs, customs, etc. between different cultures, and accepts and adjusts with an inclusive mentality [14]. From a cultural point of view, "cultural identity" refers to an individual or group's sense of identity with a certain culture, which has a certain cultural value orientation. "Cross-cultural" is a culture that crosses borders and nationalities. Intercultural education is designed for all students and citizens to promote respect and understanding of cultural diversity and to provide a colorful education. Intercultural education refers to programs, courses or activities designed for all students, in an educational context, that contribute to respect for cultural diversity and cultural understanding of identifiable groups [15]. The cross-cultural teaching management mode refers to an inclusive management method carried out by students and teachers in different countries, races, and regions in different cultural backgrounds. Its purpose is to solve the contradiction between different cultures under different cultural backgrounds,

and thus produce different cultural differences, thus producing different campus cultures, thus forming the college's competitive advantage.

According to different teaching contents, college English teachers can understand the English culture of college students, especially the real situation of English communication in the living and working environment. At the same time, it also pointed out the differences between Chinese culture and English culture, so that when college students actually apply English, they will cut into the English cultural model from the perspective of English thinking to correctly apply English, so as to achieve the goal of real English communication and interactive learning.

2.2.2 The Construction of Cross-cultural College English Teaching Mode with Internet

The cross-cultural teaching mode of English should be integration of theory and practice, practice-oriented, and focus on cross-cultural teaching. Expand the theory and method of English cross-cultural teaching, so that its application ability in cross-cultural communication can be fundamentally improved.

In order to establish a teaching mode of cross-cultural English, the following measures can be taken to promote the construction of English teaching mode. First of all, to achieve the combination of language and culture and their mutual promotion. College students are active in thinking, open-minded, easy to accept new things. And those features provide a favorable environment for cross-cultural communication. In view of the excessive time spent in teaching basic language knowledge in class, English teachers can use the Internet platform to broaden the teaching channels. The learning content of basic language knowledge is advanced to online learning before class, so as to cultivate students' pronunciation skills and grammar comprehension skills. Students can carry out the first step of language learning before class, laying the foundation for the next steps. In class, teachers focus on the second step of cultural perception and the third step of critical thinking activities. Teachers can select representative texts from textbooks, or select some excellent works from the Internet and extracurricular readings to introduce students to them. Critical thinking activity is integrative teaching, which integrates language and culture to answer questions in English. Through the above three steps of study, the students' knowledge level in foreign language and culture will be greatly improved. After a long-term exercise, students' speaking ability will be significantly improved. Secondly, the comparison of Chinese and Western cultures, to seek common ground while reserving differences. In English cross-cultural teaching, people can use the method of comparison to compare the differences between Chinese and Western cultures, so as to enhance students' critical thinking ability and improve teaching effect. For example, Chinese traditional culture emphasizes modesty and restraint, while Western culture is extroverted and assertive. Chinese people reject praise, while Westerners express gratitude directly. In the Chinese mind, the dragon symbolizes kindness and bravery, while in the West, the dragon symbolizes the devil. This is the huge difference between Chinese and Western cultures. In the classroom, teachers should select comparative cultures as research objects as much as possible, and can ask students to share their understanding of Western culture, so that students can better understand their own national culture in the process of understanding Western culture. Many different cultural exchanges are possible. In cross-cultural communication, student-centered cross-cultural communication, creating a colorful language environment, and cultivating students' multi-cultural communication ability are an important part of English cross-cultural communication. In the classroom, teachers can also create various scenarios for students to play their own roles, so that when students perform, they can arouse the emotional resonance of students, so as to maximize their expressiveness.

2.2.3 Overview of Interactive Teaching Mode

The interaction mode is based on three communication modes (ie, one-way expression, two-way communication, and deep interpretation) as the basic elements. Among them, the one-way expressive type refers to the one-sided speech of the learner to the reader and the audience. Two-way communication refers to oral and written communication and negotiation between people. The deep interpretation type means that the readers or listeners can deepen their understanding and feel the meaning of the original text by learning the real language and characters, and then understand the deep culture behind the original text, without being able to communicate face-to-face with people of the original text. The specific pattern is shown in Figure 2:
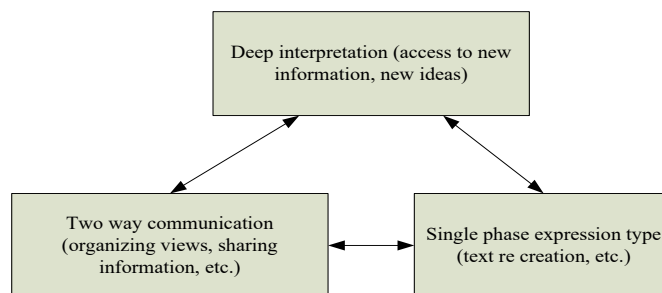
Figure 2: Structure figure of interaction mode

Interactive teaching mode is a new teaching method first appearing in English reading teaching, which includes schema theory, constructivism theory and comprehensible input hypothesis. This is a kind of student-centered, teacher-led, through appropriate reading strategies, by stimulating the background knowledge and various schemas of the reading materials in the students' brains to achieve the purpose of improvement the reading effect.

Constructivism theory is a new theory of cognitive development, which emphasizes student-oriented and advocates: learning is the process of establishing the meaning of knowledge. The formation of knowledge is a two-way process; the structure of students is diverse. Based on the constructivist viewpoint, the interactive teaching mode of multi-agent interaction is beneficial to the output of students' understanding.

2.2.4 Design Principles of Interactive Teaching Mode with Internet

The design of interactive English teaching mode should adhere to the basic principle of innovative and meaningful language practice teaching activities, so as to change from traditional "teaching" to "combining learning and practice" to reach educational purposes. Following this basic one, the design of interactive teaching activities with Internet in college English should adhere the two more principles: First, the content of interactive teaching activities should be able to improve college students' competency in international communication in vocational settings. In this way, college students have more opportunities to apply language and culture knowledge in their majors and vocations. Second, the forms of interactive teaching activities should take more international technology. Human-computer interaction includes pronunciation measurement and correction, cross-cultural dialogue and so on, which can arouse college students' practising interest. College English will become a very meaningful course. In practical application, it can inspire college students' innovative ideas. And the content of the teacher's explanation must be related to their cognitive ability and background, so that it can play a certain role in association. The new knowledge is organically integrated with the new knowledge to form a network structure of knowledge and ability, so as to improve the long-term memory ability and practical use ability.

2.2.5 Overview of Human-computer Interactive Teaching Mode

The application of computer technology in individualized teaching has promoted the development of human-computer interactive teaching mode. Constructivism holds that knowledge is not taught by teachers, but acquired by learners in a specific learning situation with the help of teachers and partners, using the required learning materials and by means of construction. Therefore, the constructivist learning theory regards "situation", "cooperation", "conversation" and "meaning construction" as the four main factors of the learning situation, that is, taking students as the center, not only makes students passively accept the stimulation of the outside world and the indoctrinator of knowledge to the subject of knowledge processing and the active constructor of knowledge meaning, but also from the knowledge imparter, indoctrinator to the active meaning constructor.

Human-computer interactive teaching broadens the single classroom teaching method, so that teachers and students can have a greater close relationship with other educational resources, especially distance education, network education. The human-computer interactive teaching pays attention to students' learning process, learning resources and how to give play to students' potential, pays attention to students' autonomous learning, and gives full play to students' abilities in brain, ear, mouth, hand, brain and other aspects. During implementation, management and evaluation, special attention should be paid to students' feedback to achieve the best teaching effect. In the human-computer interactive teaching system, when there is no sense of oppression, inferiority, incomprehension and incomprehension, teachers can teach according to their own needs and progress, and fully grasp the

initiative of active learning. The network teaching of the intelligent classroom can invite famous teachers to their own classes. This teaching method is interactive, so the intelligent classroom gives students more learning space. It can not only broaden students' horizons, but also greatly enhance their consciousness, initiative and initiative. The implementation of human-computer interaction classroom teaching mode makes classroom teaching "lively", fully arouses students' innovative thinking, stimulates students' thinking, promotes students' all-round development, and guides students to love life, love learning, life and study in a subtle and silent way.

The basic purpose of human-computer interactive teaching is to fully reflect the coordination of the three aspects. First of all, it is a harmonious whole integrating the whole and individuality, creating an efficient time and space for teachers to achieve "people-oriented" and "personalized" teaching in teaching. The intelligent classroom is designed to realize a variety of human-computer and human combination teaching. There is a lot of room. Secondly, the fundamental way to promote the healthy development of students' personality is to pay attention to the coordination of their overall development and personality development. In the teaching process, students' exploration, interactive, diversified and personalized learning are integrated into one. On the basis of activities, students' subjectivity, initiative and creativity are fully developed to achieve the positive development of the subject and the improvement of comprehensive quality. Third, the organic combination of independent development and creative development, human-computer interactive teaching emphasizes the freedom of students' autonomy, autonomy and self-education.

2.2.6 Multi Model Algorithm Based on Human-computer Interaction

The interactive multi-model algorithm is a method that can fuse multiple modes and adaptively transform the object motion state, and it can adjust the usage of each mode according to the change of the Markov transformation matrix. Assuming that there are a models, the Markov transition matrix can be expressed as:

$$p = \begin{pmatrix} p_{11} & \cdots & p_{1a} \\ \vdots & \ddots & \vdots \\ p_{a1} & \cdots & p_{aa} \end{pmatrix} \tag{1}$$

Among them: p_{nm}—Transition probability of model n to m.

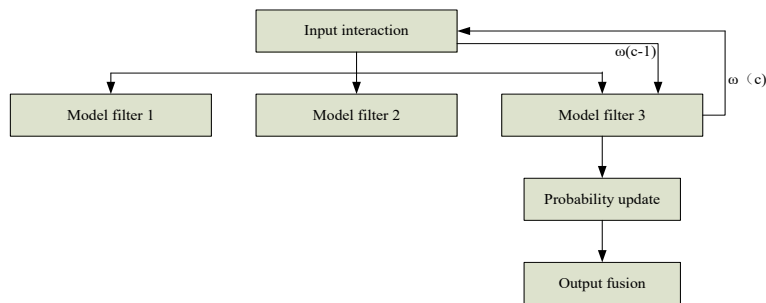The specific algorithm structure figure is shown in Figure 3:

Figure 3: Overall structure of interactive algorithm

The interactive multi-model algorithm mainly includes several parts. The first is the input interaction of the model m, which can be expressed as:

$$\hat{Y}^{Im}(c-1|c-1) = \sum_{n=1}^{h} \hat{Y}^n(c-1|c-1)\omega_{nm}(c-1|c-1) \tag{2}$$

$$\hat{p}^{Im}(c-1|c-1) = \sum_{n=1}^{h} \omega_{nm}(c-1|c-1)(\hat{p}^l(c-1|c-1) + p_{nm}) \tag{3}$$

$$p_{nm} = \left[\hat{Y}^n(c-1|c-1) - \hat{Y}^{Im}(c-1|c-1)\right]\left[\hat{Y}^n(c-1|c-1) - \hat{Y}^{Im}(c-1|c-1)\right]^t \tag{4}$$

$$\omega_{nm}(c-1|c-1) = p_{nm}\omega_n(c-1)/\bar{d}_m \tag{5}$$

$$\bar{d}_m = \sum_{n=1}^{h} p_{nm}\omega_n(c-1) \tag{6}$$

Among them: $\bar{d}_m$—normalization constant;

$\omega_n(c-1)$—Probability of model n at the last moment.

For the probability of model m, use the Bayesian formula to derive:

$$\omega_m(c) = p\{K_m(c)|W^c\} = p\{W(c)|K_m c, W^{c-1}\}p\{K_m(c)|W^{c-1}\} \qquad (7)$$

$$\omega_m(c) = \frac{1}{d}\Lambda_m(c)\sum_{n=1}^{h} p_{nm}\omega_n(c-1) = \frac{1}{d}\Lambda_m(c)\bar{d}_m \qquad (8)$$

Among them:

$$d = \sum_{m=1}^{h} \Lambda_m c \bar{d}_m \qquad (9)$$

Here: $p\{W_m(c)|K_m(c), W^{c-1}\}$—is the current distribution of $W(c)$, which obeys the normal distribution.

$$\Lambda_m(d) = \frac{1}{(2\pi)^{h/2}|O_m(c)|} exp\left\{-\frac{1}{2}f_m O_m^{-1}(c)f_m\right\} \qquad (10)$$

The predicted measurement covariance can be expressed as:

$$O_m(c) = R\hat{Q}_m(c|c-1)R^E + T \qquad (11)$$

$$f_m = W(c) - R\hat{Y}^m(c|c-1) \qquad (12)$$

Expressed by the formula:

$$\hat{Y}(c|c) = \sum_{n=1}^{h} \hat{Y}^n(c|c)\omega_n(c) \qquad (13)$$

$$p(c|c) = \sum_{n=1}^{h} \omega_n(c)\left\{\hat{p}^m(c|c) + \left[\hat{Y}^m(c|c) - \hat{Y}(c|c)\right]\left[\hat{Y}^m(c|c) - \hat{Y}(c|c)\right]^E\right\} \qquad (14)$$

This section mainly introduces the main theoretical basis of human-computer interactive teaching mode. First, the traditional college English teaching model and its shortcomings are discussed. Then, the related concepts and algorithm formulas of cross culture and human-computer interaction are introduced. Whether the college English teaching mode based on multimodal human-computer interactive teaching can really meet people's needs, the current college English teaching and curriculum reform need not only theoretical basis, but also experimental verification. An effective college English teaching model requires four elements: teaching objectives, theoretical basis, operating procedures and teaching evaluation. Then people will test according to this standard.

3. An Empirical Analysis of Human-computer Interaction In College English Teaching

3.1 Experimental Design

3.1.1 Experimental Questions and Objects

This experiment is mainly to verify whether the university English teaching mode based on human-computer interactive teaching has unique advantages compared with the traditional college English teaching mode, so as to verify the feasibility of constructing the college English teaching mode of human-computer interactive teaching. This research mainly involves two aspects: The main problems of college students' human-computer communication, the basic situation in teaching and how to construct a college English teaching model that can effectively improve human-computer interactive teaching from the four dimensions of teaching objectives, theoretical basis, operating procedures and teaching evaluation.

In this article, the experimental data and results are obtained mainly through the interview method and the survey test questionnaire method. The main subjects of interviews are teachers and students. The subjects of the survey are two classes of freshmen, namely Class A and Class B. Class A is for students in traditional college English teaching mode, and class B is for students under the human-computer interactive teaching mode of university English teaching. The number of students participating in the test papers and questionnaires was 80 (the number of students in the two classes was equal), 80 test papers were distributed, 74 valid test papers were recovered, 15 students and 5 teachers were willing to be interviewed.

3.1.2 Experimental Method

The test content includes cultural background knowledge, social behavior norms, textbook knowledge, vocabulary rich in English cultural connotation and non-verbal communication behavior. It mainly discusses the intercultural communication ability and problems of college students. To ensure the reliability of the test paper, before the official release, a small test was first conducted, and then the reliability test was conducted using SPSS21.0. The test result indicates that the Alpha value of testing

paper is 0.864, which is between 0.8 and 0.9, indicating that there is no problem with the reliability of the test paper.

The interview method verified this time is to obtain information and analyze it by interviewing 15 students and 5 freshman English teachers, in order to achieve the following further understanding the basic situation of the human-computer interactive teaching college English teaching model from the teaching aspect.

3.2 Statistics and Deconstruction of Experimental Data

In this experiment, using statistical software to process data of each component, and the accuracy of each component was counted and analyzed, and the correctness of the results was discussed. Figure 4 shows the total number of correct answers in the first part of the cultural background knowledge part of the two classes.
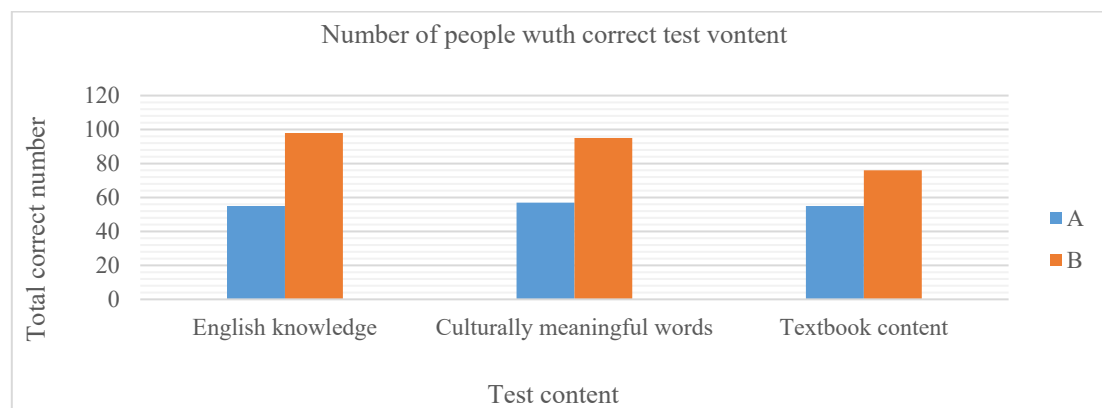

Figure 4: Comparison of positive and positive numbers of the total answer in part I

From Figure 4, it can be learned that the correct number of answers in the three modules of the cultural knowledge background part of class B is higher than that of class A, which shows that the students in class B are far better than the students in class A in their understanding of this part of the knowledge. In order to more clearly reflect the whole comparison of the correct answers of the two classes of students in the questions about cultural knowledge background, as shown in Table 1.

From Table 1, people can learn that regarding the cultural knowledge background, the correct rate of students in class A is lower than that of class B, especially the correct rate of students with culturally connotative vocabulary and knowledge of English-speaking countries is less than half. The correct rate of the content of the textbooks is higher than the first two, reaching 68.75%, which shows that the students of Class A can obtain multi-source textbooks through knowledge channels. This shows that the traditional college English teaching mode is mainly based on textbooks, serving for examinations, and seldom involving others. The results of class B are better than those of class A in all three aspects, which shows that the cross-cultural interactive college English teaching model can not only allow students to acquire textbook knowledge, but also have more knowledge about other aspects, and the direction of attention is more comprehensive. Next is the second part of the test on social behavior norms. The specific data table is shown in Table 2.

Table 1: Test results of cultural background knowledge

Test content	Question number	A			B		
		Correct number of people	Accuracy (%)	Total accuracy (%)	Correct number of people	Accuracy (%)	Total accuracy (%)
English knowledge	1	22	55	45.83	35	87.5	81.67
	2	15	37.5		30	75	
	3	18	45		33	82.5	
Culturally meaningful vocabulary	4	10	25	47.5	25	62.5	79.17
	5	18	45		32	80	
	6	29	72.5		38	95	
Textbook content	7	28	70	68.75	40	100	95
	8	27	67.5		36	90	

From Table 2, people can learn that the content tested in the table is the cognition of social behavioral norms. Question No. 9 is whether students accept being late for English class, Question No. 10 is whether it is acceptable to cut the queue for shopping, and Question No. 11 is asking whether income is acceptable. There is still a big difference in the choice of social behavior norms for students in class A and class B. In particular, whether to accept being late for English class showed the students in class B attach more importance to English class and cannot accept the phenomenon of being late. This can also reflect from the side that the cross-cultural interactive college English teaching model can attract students' interest in the English course. In order to more clearly reflect the correct rate of the two classes of students in the choice of social behavior norms, as shown in Figure 5.

Table 2: Selection results of social behavior norms

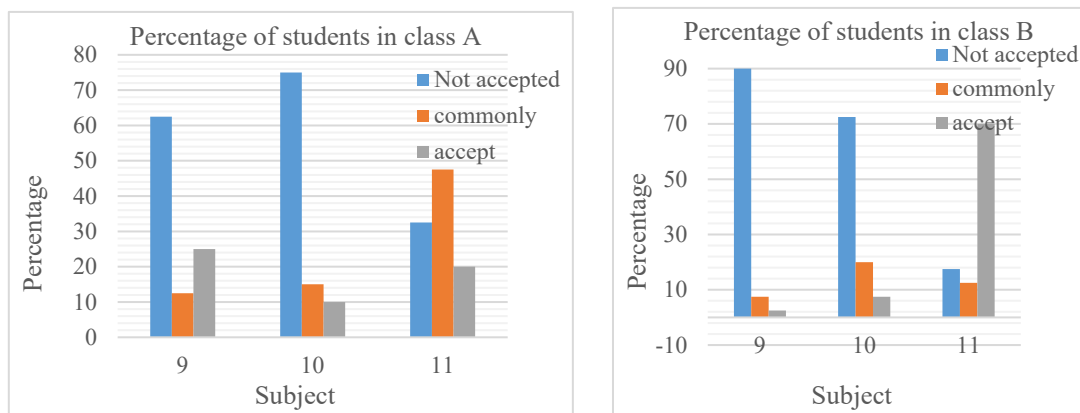| Test content	Question number	A	B	A	B	A	B
		Not accepted		commonly		No problem	
Social code of conduct	9	25	36	5	3	10	1
	10	30	29	6	8	4	3
	11	13	11	19	5	8	25

Figure 5: Comparison of correct selection rate of code of conduct between Class A and class B

From the comparison in Figure 5, it can be seen that there is still a large difference in the correct rate between Class A and Class B. The correct choice for question 9 according to the British code of conduct should be no lateness, question 10 is also not acceptable, and question 11 is accepted. From the context, people can see the comparison figure that the college English teaching mode, which focuses on cross-cultural interactive teaching at the level of social behavioral norms, has a better understanding of British social behavioral norms. Students under the traditional teaching model are more likely to be measured by our code of conduct, which leads to a higher accuracy rate for students in class A in the choice of question 10. In the meantime, it also shows that the college English teaching mode of cross-cultural interactive teaching may also have cognitive errors. But in general, the teaching based on this mode can inspire students' interest in learning English and can also be extended to the field of daily life, helping students to better carry out cross-cultural communication activities.

Next is the third part of the test on non-verbal behavior. The specific data table is shown in Table 3:

Table 3: Nonverbal behavior selection results

Test content	Question number	A	B	A	B	A	B
		need		No need		unclear	
Nonverbal behavior	12	23	3	6	33	11	4
	13	19	8	15	29	6	3
	14	14	7	18	31	8	2
	15	26	10	12	27	2	3
	16	19	14	18	25	3	1

From Table 3, people can learn that there is a big difference in the choice of class A and class B for non-verbal behavior norms. Especially in the choice of question 12 about whether to stand up in class, class A mostly chooses to need, while class B chooses not to. In fact, in the British classroom, the teacher's physical question can indeed be answered sitting down without standing up. The comparison table of the correctness rate is the non-verbal behaviors of the two classes is shown in Figure 6:
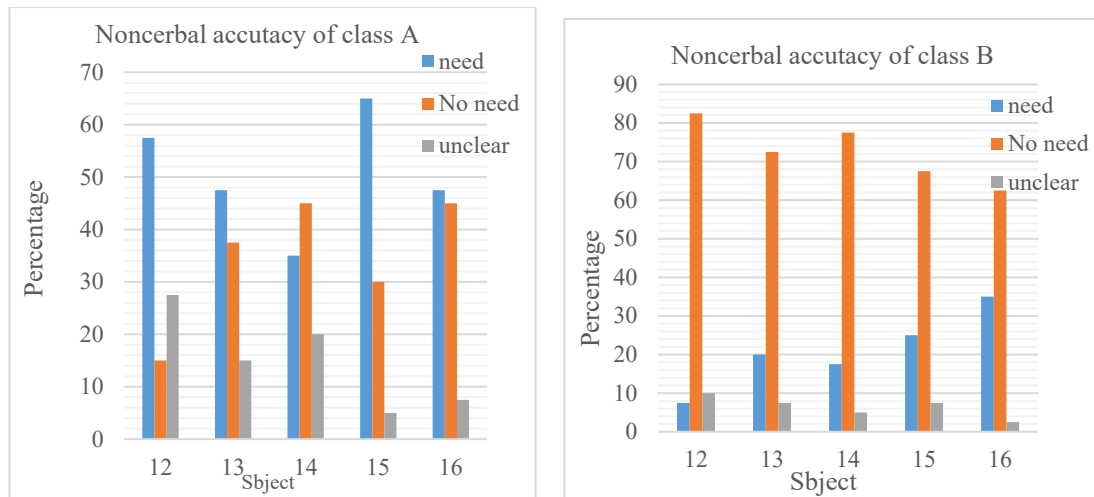
Figure 6: Comparison of accuracy of nonverbal behavior norms between Class A and class B

From Figure 6 , people can learn that the correct rate of students in class A is much lower than that of students in class B in terms of non-verbal norms, and more than 20% of students are not clear about the choice of question 12. This shows that students under the traditional college English teaching model do not know much about British non-verbal behavior. The students in class B have a deeper understanding of these non-verbal behaviors because of the cross-cultural interactive teaching model. Therefore, the students in class B are better than those in class A in terms of overall data.

From the above test questionnaire data, it can be seen that the students of class B are significantly better than the students of class A because of the cross-cultural interactive teaching college English teaching mode. This shows that the college English teaching mode through cross-cultural interactive teaching can not only help students learn textbook knowledge, but also improve students' mastery of in-class knowledge. In the meantime, it can help students to to understand cross-cultural knowledge, better improve students' cross-cultural communication skills and critical thinking ability, inspire students' interest in learning English, and turn from textbooks to practice.

3.3 Deconstruction of Interview Results

Through interviews with students, people found that they were very interested in the introduction of English-related cultural background and customs and etiquette. However, there is not enough time to understand, and the channels for understanding this are only occasional mentions in teachers' classrooms. But most of the time, in order not to delay the progress of the class, teachers basically do not mention the cultural background and customs and etiquette related to it. They focus more on vocabulary, text, grammar, and practice, not to mention designing activities to enrich students' classroom engagement. Therefore, most students are unfamiliar with cross-cultural communication, and it is even more difficult to communicate with foreigners, let alone achieving the goal of speaking Chinese culture in English.

Through interviews with teachers, it was found that the 5 teachers who were willing to be interviewed all understood the college English teaching model of cross-cultural interactive teaching. However, under the pressure of exams, most teachers still focus on the explanation and training of language knowledge, while other English teaching has not received enough attention. As for the cultural knowledge mentioned in the textbook, the teacher only said a few words and did not expand it. Only a small number of teachers indicated that they would pay enough attention to the English class. Due to the limitation of class hours, more teachers are reluctant to spend time asking students to actively engage in cultural learning, not to mention extracurricular expansion. Due to the limitations of English cultural teaching, teachers often pay attention to the interpretation of culture, so there are many obstacles in the construction and promotion of cross-cultural interactive college English teaching.

To sum up, this article is based on the in-depth research on the cross-cultural interactive teaching mode and verified by experiments. The final experiment proves that applying the college English teaching mode of cross-cultural interactive teaching to in-class knowledge in English language knowledge can increase students' mastery rate of in-class knowledge by about 26%. The correct rate of English application skills, that is, social behavior norms used in social practice, has increased by 27%,

and the correct rate of non-verbal norms used in cross-cultural communication has increased by about 25%. This shows that the college English teaching mode of cross-cultural interactive teaching is feasible, and it is of great help to improve students' overall ability and social life and practical ability.

4. Conclusions

English is a means of communication. Its goal is to cultivate students' ability to use English. Teachers regard English as a tool for cross-cultural communication, and let students use English as a tool for cross-cultural communication. Both teachers and students use English as a tool for cross-cultural communication, both in and out of the classroom. Teaching activities should not only promote learning, but also be closely integrated with English communication, and strive to achieve communication in English classrooms. In English teaching, teachers and students do not just teach or learn English, but train day after day to achieve the purpose of cross-cultural communication in English to achieve the purpose of cross-cultural communication in English. It must be recognized that language, culture and society are an organic whole, and the comprehensive ability of English should be improved in the work. But this must not be an excuse for teachers and schools and must be fully reflected in syllabuses, teaching materials, classrooms and extracurricular activities. This paper proves the feasibility of using cross-cultural interactive teaching in college English teaching through in-depth studies cross-cultural interactive teaching model. It can improve college students' mastery of textbook knowledge and multi-cultural knowledge, and at the same time improve college students' cross-cultural communication ability.

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