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Original Paper

A Study of a Multiple Evaluation System of College English Online Teaching in China

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Abstract

The comprehensive and scientific evaluation of college English teaching in online mode is an important basis for further promoting and optimizing the pragmatic reform of college English teaching. Based on the operational principle, the principle of service to students, and the feasibility principle, this study aims to construct a multiple evaluation system of online college English teaching based on three aspects: online interaction, online autonomous learning, and English online practice. A questionnaire has been conducted among undergraduates, teachers, and experts. The Analytic Hierarchy Process (AHP) has been used to analyze the relative importance of the indicators at the first two levels in the multiple evaluation system. The results revealed that the weight coefficients of teacher-student interaction, learning resources, and English listening practice are higher, while those of learning freedom and oral English practice are lower. Therefore, the online college English teaching reform should take the following measures: equipment input of college English practice teaching should be reinforced, communication channels between teachers and students should be strengthened, and online teaching resources should be enriched.

Keywords

online teaching and learning, college English teaching, multiple evaluation system, analytic hierarchy process

1. Introduction

The practice in College English education in China has been conducted based on nationally unified curriculum---the College English Curriculum Requirements (CECR) (Cai & Xin, 2009; Chen & Klenowski, 2009). China's Ministry of Education (CMOE) has initiated College English curriculum reforms nation-wide with the attempt to promote the quality of College English education to better meet the needs of socioeconomic development in China (Cai & Xin, 2009; Chen & Klenowski, 2009; Zhang, 2004). The 2017 CECR advocated College English should vigorously promote the integration of the latest information technology and curriculum teaching, and continue to give play to the important role of modern educational technology, especially information technology in foreign language teaching (CMOE, 2017). The 2017 CECR called for a full use of information technology and actively create a diversified teaching and learning environment in colleges and universities (CMOE, 2017). Teachers are encouraged to build and use micro-courses and MOOCs, transform and expand teaching content by using high-quality online education resources, and implement mixed teaching modes such as flipped classroom based on classroom and online courses, so that students can develop towards active learning, independent learning and personalized learning (CMOE, 2017). The curriculum requirements emphasized that teaching assessment is a crucial link to achieve the goal of college English teaching (Xie et al., 2009; Yin, 2010). According to the Association for Educational Communications and Technology (AECT) (2004), the modern education technology is creating, using, and managing appropriate technological processes and resources to promote learning and improve the performance of the study and ethical practice. On the one hand, the new media, such as computers, multimedia, and internet applications in the actual teaching process, have been emphasized. On the other hand, the traditional teaching of knowledge structure's linear defects is to be overcome to build up a diversified, multi-level, and nonlinear information structure.

The modern educational technology with computer network has been gradually integrated into college English teaching in China, which has brought profound changes to the traditional English teaching model (Li, 2005; Wang, 2006). Since 2007, many forms of college English online teaching systems have emerged, such as the New Horizon College English online learning system and Bingo English functional Composition System (Zhang & Yin, 2010). The multimedia teaching system combined with digital technology enable students to communicate with each other and with teachers across time and space, and achieve the collaborative learning effects, to which the traditional teaching mode cannot be compared (Brett, 2000; Fang, 2011; Han et al., 2014; Li, 2005; Lukman & Krajnc, 2012). However, little research has been done to investigate the evaluation system of online college English teaching in China. This study aims to develop an effective network evaluation model of college English teaching in an online environment using the Analytic Hierarchy Process (AHP).

2. Literature Review

For years, previous Chinese scholars have been working on the assessment of college English teaching in an online/virtual environment in China (Li, 2005; Peng, 2004; Tong & Shi, 2009; Wang, 2006; Yang, 2012; Zhou & Qin, 2005). In terms of assessment methods, scholars have emphasized the importance of adopting formative assessment methods in college English teaching (Li, 2005; Yang, 2012; Zhou & Qin, 2005). Formative assessment methods include "self-correcting systems" that tap students' potential and comprehensively examine students' specific learning processes. Formative assessment gives full play to cultivating students' independent and cooperative learning ability (Wang, 2006).

However, based on the theory of connectionism, Tong and Shi (2009) examined the assessment system of college English teaching from the perspective of systematization, ecology, and language technology, and concluded that the assessment system must be based on formative assessment and supplemented by summative assessment. Peng (2004) proposed that the assessment system of college English teaching should neither be formative nor summative but should be a dynamic assessment system that can more effectively cultivate college students' cognitive and understanding abilities.

Prior researchers have also focused on the typical English composition scoring systems and scoring behaviors. In terms of the assessment model systems in different aspects of college English teaching, Wan (2005) explored the application of electronic software assessment systems in English writing tests for English majors in Anyang Institute of Technology. He explored the possibility of replacing manual assessment and found that electronic software assessment has higher reliability. Zhang and Yin (2010) did an overview of the relevant concepts of computer scoring for English composition, summarized the main research techniques of computer scoring for English composition, and introduced several typical computer scoring systems for English composition. Researchers have conducted a targeted discussion on the practical application of online assessment systems in college English teaching in China (Tan, 2008; Zhou et al., 2009; Zheng, 2010; Zeng, 2010). For example, Tan (2008) reported a study using Rasch model to analyze English writing grading behavior of four raters. The results showed that the intra-rater reliability is difficult to achieve. It is necessary to establish clear grading standards and train the grading staff to ensure the correct understanding and application of grading standards (Tan, 2008). Zhou and colleagues (2009) found paperless examination can improve the efficiency of testing and evaluation; and a larger proportion of students (85%) and teachers (90%) have a positive attitude to it; on the other hand, they also found negative aspects of computer-based examinations, for example, deficit network technology and testing software will increase teachers' workload infinitely; reading online will aggravate the degree of eye fatigue; 5% of students disapprove of paperless exams in writing courses; 70% of teachers worry that paperless exams are not easy to implement. Zeng (2010) found the main advantages of computerized examination are mainly reflected in these four aspects: innovative examination questions can be applied; adaptability testing can be implemented; multi-dimensional capability estimation is realized; immediate diagnostic information can be provided.

With the rapid development of computer technology, web-based test and evaluation of second language acquisition have a very broad development prospect. This issue has also gained popularity among scholars in other countries. For instance, Akinwamide et al. (2012) explored the online autonomous learning functions and strategies with a finding that teachers' supervision predicted the performance of ESL students' online autonomous learning. Teachers need to arrange and help students to complete different online learning tasks to achieve the self-construction of knowledge. In terms of a network language learning environment, Lukman and Krajnc (2012) discussed the commonalities and characteristics of non-traditional teaching methods in the virtual and real learning environments. The results showed the appropriateness of nontraditional learning methods in comparison with traditional ones, although collaborative learning in both environments causes several frustration based on conflicts (personal or disagreements during the learning phase), influencing the efficiency of the learning process. Dickenson and his colleagues (2010) found virtual action learning was corelated with social, cultural, technical and economic change in the society. Yang (2009) believed that new media (such as blogs, etc.) facilitated learning a second language. The results showed that 43 student teachers were able to critically reflect on their thoughts and they viewed technology a useful tool for reflecting and communicating with each other.

To date, the Chinese scholars' research on the evaluation of college English teaching in a virtual environment has been relatively broad, including assessment methods such as formative assessment, summative assessment, and dynamic assessment (Peng, 2004; Tong & Shi, 2009; Yin, 2010; Zhou & Qin, 2005), as well as the study of assessment systems in different aspects, such as the English composition network scoring system (Tan, 2008; Wan, 2005; Zhang &Yin, 2010; Zhou et al., 2009). Although prior existing research of the assessment of online college English teaching has focused on teaching purposes, teaching methods, and teaching practices , relatively few studies have been conducted on online teaching assessments and fewer quantitative analyses of the evaluation standards have been adopted on the issue. In addition, due to the lack of sufficient attention on the information feedback mechanism from teaching practice process, student cognitive process and interaction platforms, online college English teaching is still constrained by the traditional English teaching model. Therefore, the possible contributions of this study might be as follows: first, to fill in the gap of the evaluation system research in a network environment in China by building up a multi-evaluation index system for online college English teaching; second, to supplement the literature of quantitative research on the evaluation criteria by utilizing the Analytic Hierarchy Process (AHP) to quantitatively study the evaluation criteria of online college English teaching; third, to add onto the literature on evaluation feedback mechanism by selecting experts, teachers, and students as questionnaire participants to provide feedback.

3. Theoretical Framework

The multi-dimensional approach of evaluation of college English language teaching in a network environment is based on the theoretical framework of the Constructivism and the Interaction Hypothesis (IH). Constructivism holds that teaching media should be a cognitive tool for students to study actively and explore cooperatively, rather than just a means to help teachers impart knowledge (Chen, 2007; Koohang et al., 2009; Lutz & Huitt, 2004; Perkins, 1991; Saunders & Goldenberg, 1996). According to the constructivist learning theory, on the one hand, online learners independently choose the learning contents and ways to control the learning process; on the other hand, it is also necessary to evaluate the learning process and results of self-construction through self-diagnosis and self-reflection since constructivist learning is cumulative and goal-directed (Yang, 2012). In the online teaching process, evaluation should be focused on formative assessment, including participation, homework submission, online discussion, online recording of the learning process, students' self-evaluation, and peer review (Yang, 2012). Besides, communication with teachers and group cooperative learning should also be included to comprehensively evaluate the students' learning effect and ensure the effectiveness and practicality of online teaching (Yang, 2012).

The Interaction Hypothesis (IH), one of the most important Second Language Acquisition (SLA) hypotheses, has also laid the theoretical foundation of the current study. The IH claims that second language development is better facilitated when learners participate in negotiated interaction, and a second language is acquired more effectively through interaction and communication (Auquilla et al., 2019). A substantial body of studies has shown that interaction is inseparable from second/foreign language learning (Ellis, 1994; Gass, 2005; Long, 1981, 1983). There are mainly two kinds of interactive activities in a multimedia and a network environment: teaching interactive activities and social interactive activities. Li (2001) pointed out that teaching interaction refers to using computer network information from teaching resources, linking content, downloading information, publishing information, and so on. Such interactive activities provide learners with a dynamic control of information and the opportunity to control the learning situation. Social interaction is the use of e-mail, chat rooms, bulletin boards, online meetings, or other online media resources to communicate with others. Through these communication activities, asking questions, offering answers, discussions, and debates can be conducted online between learners and teachers as well as between learners and learners. In a network environment, interactive activities are a dynamic process, which runs through the whole learning process (Li, 2001).

Previous second language acquisition researchers have identified and emphasized the importance of online communication and interaction in the target language, which provides opportunities for authentic social interaction (Auquilla et al., 2019; de la Fuente, 2003; Sachs & Suh, 2007; Smith, 2004). Many researchers have claimed that online communication offers learners many opportunities (Jepson, 2005; Smith, 2004). For example, de la Fuente (2003) found that face-to-face and computer-mediated

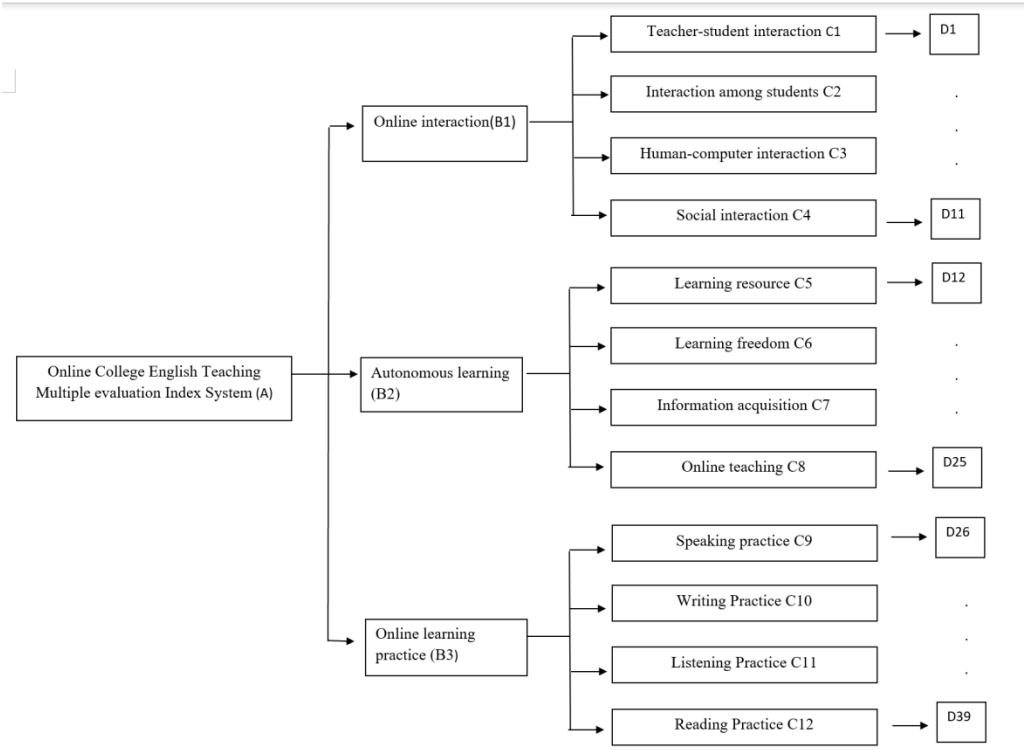
interaction appeared equally effective in promoting vocabulary acquisition. Therefore, it will be of great significance to investigate the main factors of the multiple evaluation system of online college English teaching in China and their relative importance based on those conceptual foundations.

4. The Present Study

The construction of the multiple evaluation index system for online college English teaching in China conforms to three basic principles of course evaluation (Tu, 2007): orientation, feasibility, and acceptability (Hu, 2008; Wang, 2002; Jin & Wang, 2007). In terms of orientation, a multiple evaluation system should embody the correct teaching values (Jin & Wang, 2007): social-service-orientated and student-development-orientated. Besides, feasibility requires evaluation to be consistent with the teaching context and be understood and accepted by evaluation objects (Hu, 2008). The main factors of multiple evaluation systems should be described clearly and accurately, and indicators should be measurable. Besides, the numerical value of each index should be evidence-based and reasonable, and the methods and the procedures of constructing the numerical value have to be widely accepted. Moreover, acceptability requires the indexes in this system to be accepted by most objects and subjects (Wang, 2002). Thus, the difficulties of the indexes should be moderate and fair to every participant. Each index in the system is relevant and relatively independent (Hu, 2008).

To identify the main factors of multiple evaluations of online college English teaching in China, we selected articles from CSSCI journals published in the past ten years. The qualitative data coding (Huang, 2008) was employed to identify the specific indexes. Then the frequency and percentage of each index was counted. The multiple evaluation index system was designed from three levels: network interaction, autonomous learning, and English practice, which belong to the first level. The second level includes 12 indicators: teacher-student interaction, interaction among students, human-computer interaction, social interaction, learning resources, learning freedom, information acquisition, online teaching, oral English practice, English writing practice, English listening practice, and English reading practice. The third level includes 39 evaluation indicators, such as teacher-organization interaction, students' question and answer interaction, group cooperation interaction, and group confrontation interaction, and so on. Twelve evaluation indicators belong to the network interaction dimension, 13 evaluation indicators belonging to autonomous learning, and 14 evaluation indicators belonging to network English practice (See Table 1). The AHP was used to analyze the relative importance of different hierarchical indicators. This study aimed to examine the relative importance of the evaluation index at each level to determine the main factors of the online college English teaching evaluation system in China.

Table 1. Multiple Evaluation System of Online College English Teaching in China



5. Methods

5.1 Participants

Considering the differential influence of regional educational resources on the generalizability of the results, we selected five colleges and universities from three provinces in the eastern region, the central region, and the western region, respectively. The survey was conducted from May 2017 to January 2018 by online college English teaching experts and instructors as well as students who took the college English online courses. There was a total number of 5,639 respondents who finished and submitted the questionnaire, from which 35 were online English teaching experts, 102 were teachers, and 5,606 were students from those 15 colleges and universities. One hundred and fourteen questionnaires that were incomplete or carelessly filled out were eliminated. Therefore, finally, 5,525 valid questionnaires were obtained, with an attrition rate of less than 10%.

5.2 Questionnaire

The questionnaire is mainly composed of four parts: The first part is demographic information of the participants, such as age, gender, affiliation, occupation, etc. The second part is the interactive network of college English teaching, which involves specifically the evaluation of 12 indicators. The third part is the evaluation of online autonomous learning of college English teaching, which involves 13 indicators. The fourth part is the evaluation of English practice in college English teaching, which specifically involves 14 indicators. The questionnaire with a 5-point Likert scale ranging from

"strongly disagree", "somewhat disagree", "neutral/no opinion", "somewhat agree", to "strongly agree" for each item has been rated.

5.3 The Analytic Hierarchy Process (AHP)

The AHP, developed by Saaty (1980), is one of the Multiple-Criteria Decision-Making (MCDM) methods which helps to improve the effectiveness of numerical value distribution (Wang & Xu, 1990) and provide a simple method with multi-criteria for a complex system which is difficult to be quantified. It is widely applied to varied fields such as resource allocation, project design, maintenance management, and policy evaluation (Saaty, 1980; Cook et al., 1984; Shen et al., 1998; Cheng et al., 2005; Banai, 2005). AHP has the following advantages over other methodologies: 1) including comparing to the relative importance of each index with one another based on the best benefit of an overall evaluation system, 2) simplifying the decision-making process, and 3) improving the accuracy of priorities by pairwise comparison between every two indexes at the same level. The comparability of the numerical value can be strengthened by comparing each index with one another at the same level from the lowest to the highest level in evaluation systems. Therefore, AHP was used to apply to construct the multiple evaluation system of online college English teaching that can be turned into a hierarchical decision model.

AHP is a method to solve a complex decision problem by breaking it down into multiple factors, but it is widely criticized for a tedious process of pairwise comparison when a number of criteria or alternatives are involved. Experts' judgments may be doubted, for they are very likely to feel tired and lose patience during this process. To avoid such a drawback, only reasonable and manageable amounts of criteria are contained in the model based on the previous related research articles published in the CSSCI journals. The authors of this study have acted as facilitators to take over the judgment process. Therefore, AHP was regarded as the most appropriate method for this study since the data input was straightforward and convenient. The primary goal was to determine which indexes have the highest numerical value and should be included in the system. In this paper, the complicated mathematical calculations of AHP were skipped, and only a brief description of this method was provided.

6. Results

6.1 Descriptive Characteristics of the Score Status

Based on the results from the evaluation questionnaire of online college English teaching, this study summarized the features of online interaction (B1), online autonomous learning (B2), and English online practice (B3). There were 66,300 option level observations altogether in terms of the online interaction dimension, 71,825 for the autonomous learning dimension, and 77,350 for the English practice dimension.

The option level of the online interaction dimension presented right skew or positive skew distribution, with an average value of 2.83. Among them, there were 11,695 samples with option 1, accounting for 17.64% of the total number. There were 17,699 samples with option 2, accounting for 26.70% of the total number. The number of samples with option 3 was 15,718, accounting for 23.71% of the total number. The number of samples with option 4 was 12,242, accounting for 18.46% of the total number. There were 8,946 samples with option grade 5, accounting for 13.49% of the total sample size (as shown in Figure 1). From the comprehensive comparison, the evaluation level of online interaction dimension is between "slightly important" and "relatively important", which is inclined to the "relatively important" option.

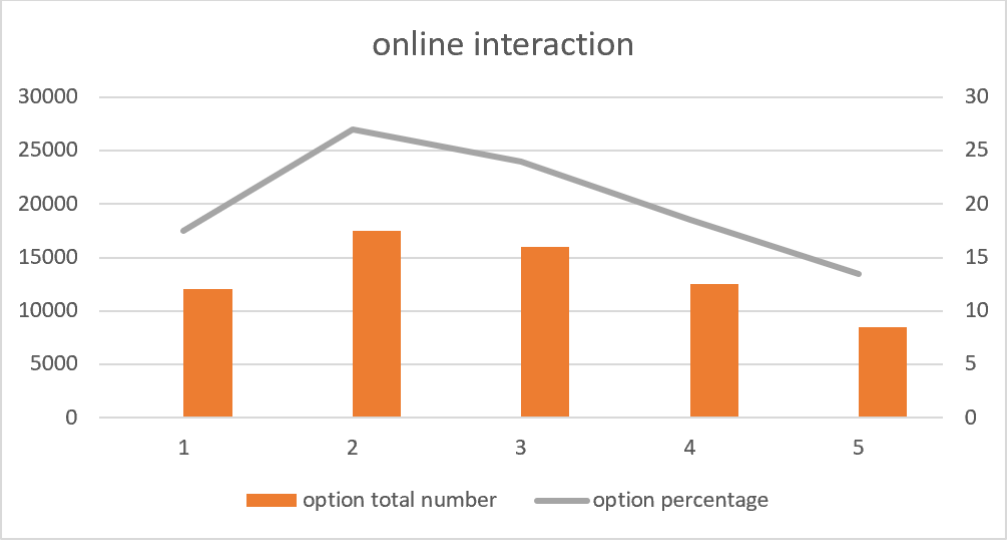


Figure 1. Descriptive Characteristics of the Scoring Status of Online Interaction

The options of online autonomous learning dimension presented right skew or positive skew distribution, with a mean of 2.69. There were 16,425 with option 1, accounting for 22.87% of the total samples. The number of choosing other four following options was 19,682, 14,629, 11,902, and 9,187, respectively, accounting for 27.40%, 20.37%, 16.57%, and 12.79% of the total number, respectively (as shown in Figure 2). From the comprehensive comparison, the evaluation level of this dimension is between "slightly important" and "relatively important", which was inclined to the "relatively important" option.

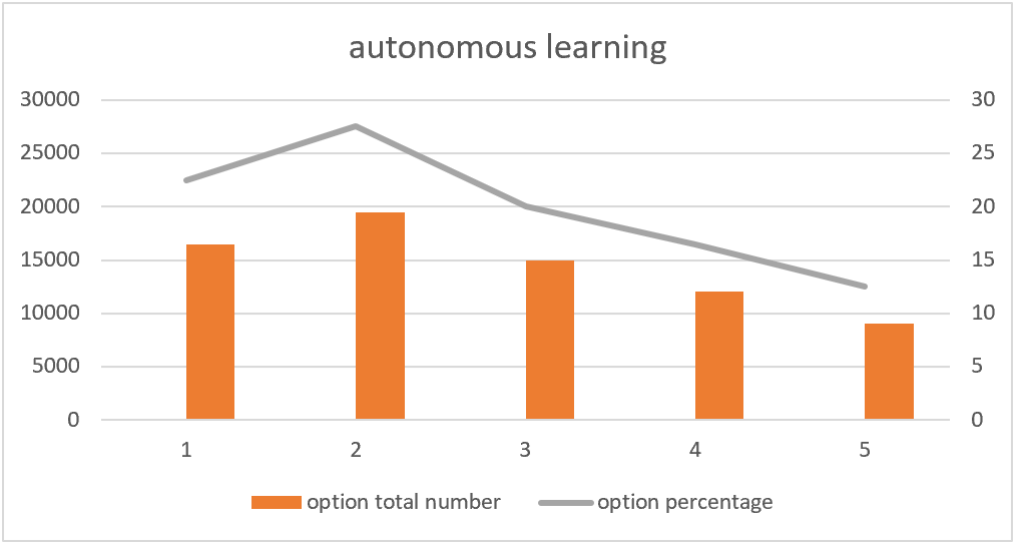


Figure 2. Descriptive Characteristics of the Scoring Status of Online Autonomous Learning

The online English practice dimension options presented a normal distribution, with a mean value of 3.01. There were 10,322 samples with option 1, accounting for 13.34% of the total samples. In terms of other four options from 2 to 5, there were 16,694, 21,485, 19,527, 9,322 samples, respectively. They accounted for 21.58%, 27.78%, 25.24%, 12.05% of the total number of samples, respectively (as shown in Figure 3). The evaluation level of this dimension is between "relatively important" and "very important," which was inclined to the "relatively important", similar to the dimensions of online interaction and autonomous learning.

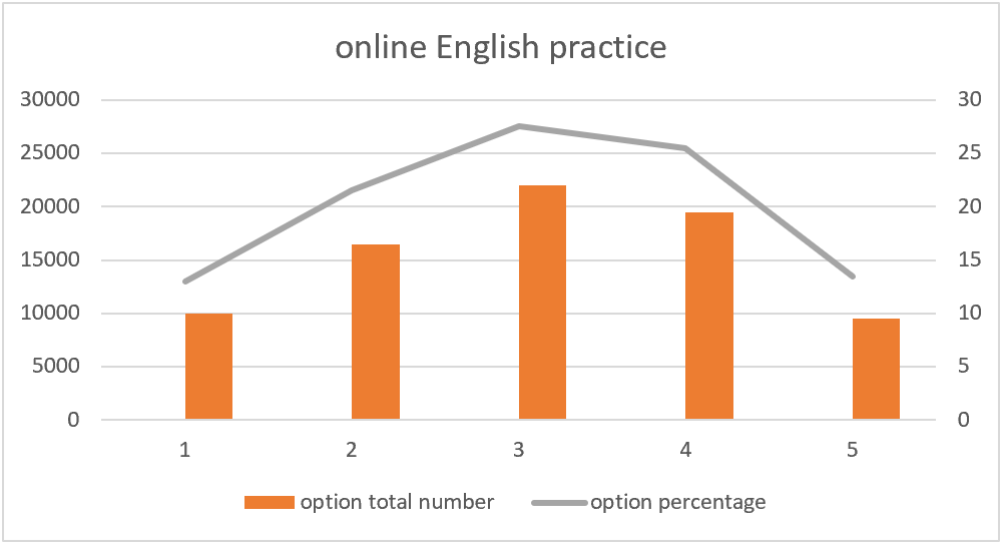


Figure 3. Descriptive Characteristics of the Scoring Status of Online English Practice

By using the AHP to analyze the questionnaire data, the results showed that the relative importance of the evaluation index at the first level was on the following order: English practice (B3) > network interaction (B1) > autonomous learning (B2). In terms of the network interaction dimension, the order of the relative importance of each index should be: communication between teachers and students (C1) > social interactions (C4) > interaction among students (C2) = human-computer interaction (C3). The situation of the relative importance of indicators in the autonomous learning dimension is as follows: learning resources (C5) > online teaching (C8) > information acquisition (C7) > learning freedom (C6). The relative importance of the indexes in the network English practice dimension: English listening practice (C11) > English writing practice (C10) = English reading practice (C12) > English speaking practice (C9). Therefore, the judgment matrix of the evaluation index at the first level:

$$A=\begin{bmatrix} 1 & 2 & \frac{1}{2} \\ \frac{1}{2} & 1 & \frac{1}{3} \\ 2 & 3 & 1 \end{bmatrix}$$

The judgment matrix of the evaluation index at the second level:

$$B_1=\begin{bmatrix} 1 & 4 & 4 & 3 \\ \frac{1}{4} & 1 & 1 & \frac{1}{2} \\ \frac{1}{4} & 1 & 1 & \frac{1}{2} \\ \frac{1}{3} & 2 & 2 & 1 \end{bmatrix};\quad B_2=\begin{bmatrix} 1 & 4 & 3 & 2 \\ \frac{1}{4} & 1 & \frac{1}{2} & \frac{1}{3} \\ \frac{1}{3} & 2 & 1 & \frac{1}{2} \\ \frac{1}{2} & 3 & 2 & 1 \end{bmatrix};\quad B_3=\begin{bmatrix} 1 & \frac{1}{3} & \frac{1}{4} & \frac{1}{3} \\ 3 & 1 & \frac{1}{2} & 1 \\ 4 & 2 & 1 & 4 \\ 3 & 1 & \frac{1}{4} & 1 \end{bmatrix}。$$

Table 2 shows the weights of the first and second levels of the multiple evaluation index system. In the current paper, the relative importance and the evaluation index weight of the third level were not included and discussed because the application of the modern network technology varied at different levels in different colleges and universities, therefore, the more detailed quantitative score of the evaluation indexes at the third level may not apply.

Table 2. Weights of Multiple Evaluation Index System of Online College English Teaching in China

decision-making level	Level 1	weight	Level 2	weight
College English Teaching Multiple evaluation Index System A	online interaction B_1	0.2970	Teacher-student interaction C_1	0.5376
			Student Interaction C_2	0.1214
			Human-computer interaction C_3	0.1214
			Environment interaction C_4	0.2196
	Autonomous Learning B_2	0.1634	Resource C_5	0.4668
			Learning freedom C_6	0.0953
			Information acquisition C_7	0.1603
			Online Teaching C_8	0.2776
	Online learning practice B_3	0.5396	speaking practice C_9	0.0883
			writing Practice C_{10}	0.2395
			Listening Practice C_{11}	0.4327
			Reading Practice C_{12}	0.2395

The consistency test has been used to measure the internal stability and reliability of judgment matrices of different levels and dimensions. The lower the consistency test coefficient is, the higher the consistency of the judgment matrix will be, and the higher the accuracy of the conclusion obtained by AHP will be. In this paper, the consistency ratio C.R. was selected as the consistency test index of the multiple evaluation system. The ratio of the calculated C.I. index value and R.I. index value was used to test the consistency of the three dimensions variables: network interaction, network autonomous learning, and network English practice. The calculation formula of C.I. index is: $C.I.=\frac{\lambda_{max}-n}{n-1}$, where λ_{max} is the maximum eigenvalue of the judgment matrix. By checking the table, we got the results as $R.I.(3)=0.58$ and $R.I.(4)=0.90$. Results showed that the consistency ratio of the first level $C.R.^{A}$ = 0.0079. In terms of the second level, the consistency ratio of the online interaction dimension $C.R.^{B1}$ = 0.0076; the consistency ratio of the online autonomous learning dimension $C.R.^{B2}$ = 0.0115; the consistency ratio of the English practice dimension $C.R.^{B3}$ = 0.0076. The consistency ratios of the

evaluation indexes at all the levels were less than 0.05. It can be considered that the deviations of the maximum eigenvalue of the evaluation indexes at each level from the judgment matrix order is no more than 0.05 from the average random consistency index R.I. Therefore, the consistency of the judgment matrixes has been proved. In other words, the weights of the multiple evaluation index system of college English teaching obtained by the AHP were basically accurate since they conformed to the standards of consistency, stability, and reliability.

7. Conclusion

This study attempted to build a multi-dimensional assessment system frontline college English teaching in China from three aspects: online interaction, online autonomous learning, and English online practice, aiming to provide a reliable reference for further improving and optimizing the online college English teaching model, as well as making up for the lack of research on the assessment system in the online environment. The AHP was used to supplement the literature of quantitative research on assessment standards. Experts, teachers, and students were selected as the participants of the questionnaire, so as to form assessment feedback information and fill in gaps of assessment feedback mechanism research.

The results revealed that the relative importance of the evaluation index at the first level is based on the following order: English practice (B3) > network interaction (B1) > autonomous learning (B2). In terms of the network interaction dimension, the relative importance of each index should be: communication between teachers and students (C1) > social interactions (C4) > interaction among students (C2) = human-computer interaction (C3). The relative importance of indexes in the autonomous learning dimension is as follows: learning resources (C5) > online teaching (C8) > information acquisition (C7) > learning freedom (C6). The relative importance of the indexes in the network English practice dimension is: English listening practice (C11) > English writing practice (C10) = English reading practice (C12) > English speaking practice (C9). Thus, the weight coefficients of teacher-student interaction, learning resources, and English listening practice are higher than those of learning freedom and English oral practice.

Based on the findings, there are implications for college English teaching under China's network environment. Administrators and policymakers of universities in China need to support and encourage online English courses by enhancing the curriculum design and providing professional development for teachers. In addition, it is suggested that the equipment input of college English teaching be strengthened. Modern college English network practice facilities play an important role in cultivating students' comprehensive English application ability and enhancing their autonomous learning ability. Besides, the communication channels between teachers and students need to be strengthened. Teachers' role should not only be embodied in the college English classroom, but also in the online interaction among students. The cognitive construction of English learning is a cyclic process in which teachers

help students from discovering problems to solving problems back and forth. Finally, great efforts need to be made to improve and enrich network teaching resources. Developing and building a variety of network teaching resources facilitates to provide students with a good language learning environment.

The current study was the first to use AHP to examine the evaluation system of online English teaching in China. But as the other studies, there are limitations to this one. First, due to the shortcomings of ordinary AHP, such as uneasily estimated range of evaluation results, uneasily determined quantitative values, and strong subjectivity, future efforts are needed to be done on a more feasible online college English teaching system in China by a revised or improved AHP. Second, the specific indicators at the third level were not included and discussed in the current study due to the varied usage of the modern network technology in those colleges and universities and the paper length limit. Therefore, in the future studies, the relative importance of the indexes at the third level will be calculated and reported, such that the specific implication will be discussed for the online college English teaching in China.

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