Research Article

Construction of Public English Curriculum System Based on Cloud Interactive Teaching Mode and Cloud Computing

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English teaching can be divided into two complementary ways: classroom teaching and neural network autonomous learning, namely, physical English teaching and virtual English teaching. On the cloud interaction and cloud computing platform, teachers upload teaching resources, and students can view learning resources, submit assignments, and interact through mobile terminals such as mobile phones, notebooks, and iPads, so as to achieve all-round teacher-student interaction that breaks through time and space constraints and create a "live" classroom for ubiquitous English learning. This paper constructs a public English curriculum system based on the "cloud interaction" teaching mode. This model fully combines the actual English level of students and adopts practical teaching methods in both classroom introduction and classroom teaching. The model lets students easily integrate into regular learning activities, interpret language on the examples and life fragments around students, and accept language naturally and improves the effect of language teaching.

1. Introduction

English teaching can be divided into two complementary ways: classroom teaching and computer network autonomous learning, namely, substantive English teaching and virtual English teaching [1]. For a long time, the teaching concept of public English education in colleges and universities has lagged behind, the teaching objectives in each stage are unclear, the quality standards are lacking, the curriculum system is rigid, the training mode is single, the teaching content is repeated, the teaching efficiency is low, the teaching effect is not good, the students’ English application ability is low, and the contradiction between the quality of education and the needs of the educated and the needs of social development is increasingly prominent [2, 3]. Limited by the English level of non-English major students, teaching teachers must fully understand the students’ English level and change their teaching methods. Through practice and exploration, the interactive English teaching model builds a communication bridge between students and teachers, and it is of great significance to cultivate vocational college students’ interest in English and improve their comprehensive English quality. Entity English teaching refers to the traditional classroom teaching, while virtual English teaching refers to all kinds of autonomous learning that students can do by using network technology after class [4, 5]. The new English audio-visual-speaking course system established by us is the organic combination of these two ways, which actually embodies the mode construction idea of maximizing the utilization of related resources to achieve new teaching objectives [6, 7]. In view of a series of problems existing in public English course, such as unclear positioning, disjointed teaching content and job requirements, weak sense of acquisition of students, unsystematic application of information-based teaching methods, and failure to implement process-based assessment methods, our research group actively explores the road of information-based reform of public English in higher vocational colleges through in-depth investigation.

At present, the interactive teaching mode is widely used in public English classroom teaching in colleges and universities, which continuously improves the teaching quality. This teaching mode is also conducive to students’ further understanding of English knowledge and improving their
English expression and application ability [8]. The “cloud interaction” teaching model is named after the integrated textbook of new forms of public English in higher vocational colleges, cloud interaction English workplace general communication, which is independently developed by the English teaching team of Hebei Software Vocational and Technical College, hereinafter referred to as cloud interaction English. The “cloud” refers to the “cloud classroom” based on the network teaching platform. In the “cloud interaction” mode, teachers upload teaching resources, and students can view learning resources, submit homework, and interact through mobile terminals such as mobile phones, notebooks, and iPads, realizing all-round teacher-student interaction that breaks through the limitation of time and space and creating a “live” classroom for ubiquitous English learning.

In addition, the subject of interaction has gone beyond the existing body and material, and there is also the interaction between people and things. Now, the interaction is more about the interaction of thoughts, thinking, and cognitive ways. Teachers’ identity has been very different from the past [9, 10]. In the interactive teaching mode classroom, teachers are the managers and facilitators of the whole classroom teaching and the inspiration of thinking [11]. Therefore, at present, college English teachers should pay attention to interactive teaching and the practicality of English teaching, so as to lay a good foundation for students’ all-round development in the future. Interactive teaching mode is an activity that generates cognition with students through teachers’ active design in the teaching process [12, 13]. It is based on the communication between students and teachers and can effectively promote college students to actively understand and digest knowledge. Teacher-student interaction can make teachers and students know each other better and give students more opportunities to show. Student-student interaction will enhance students’ feelings, exchange their ideas about English, and have more passionate collisions [14]. The communication between life and things is the interaction between students and media to get more information. The interaction between thinking and cognition is the interaction of students’ own thoughts, which enhances students’ autonomous learning ability. This model combines students’ actual English level and applies practical teaching methods in both the classroom lead-in and classroom teaching [6]. Let the students easily integrate into the regular learning activities, interpret the language with examples and life fragments around the students, and let the students naturally accept the language. Take the initiative to use language, and use language to exercise your oral expression and listening and writing skills, which is more in line with the learning goal.

2. Related Work

According to reference [15], students in public English courses must not only possess good English professional knowledge but also possess a strong control ability to apply English to all aspects of life. According to [16], public English curricula emphasize students’ personalities and provide them with a variety of learning methods through the use of big data analysis. However, many colleges and universities currently use single and backward teaching methods and have relatively general teaching arrangements. Setting up basic English courses, for example, is insufficient to effectively stimulate students’ potential, resulting in students’ English levels remaining stagnant and stuck in the middle school stage. The new curriculum system differs from the traditional teaching system in that classroom “eye-catching” teaching is supplemented by a computer network autonomous learning system to replace the single classroom teaching system, which can not only effectively alleviate the pressure of reducing classroom hours but also improve students’ learning interest and autonomy, allowing students to master a set of English skills. Reference [17] puts forward that public English curriculum is an important part of college education. In order to cultivate high-quality talents, students should not only master professional course knowledge but also have good English skills, so as to adapt to the competitive environment of modern society and constantly create personal value. Despite the fact that many colleges and universities realize the value of practice, owing to the constraints of many objective conditions, reference [18] using the big data analysis approach, many colleges and universities recognize the relevance of practice. For example, the limited space and the lack of teaching equipment make the public English course formalized, which greatly reduces the students’ learning enthusiasm and affects the effect of teaching. Some colleges even think that public English courses have no practical use so that more teaching content cannot give play to the actual effect, and students can only learn passively. Reference [19] research shows that colleges and universities adopt the hierarchical teaching mode, but the effect is very little, just to meet the needs of teaching. They are indifferent to students’ interests and future prospects. In addition, the arrangement of teachers is also very unreasonable. For example, the common shortage of teachers and the inaccurate grasp of teachers’ teaching direction make the development of public English curriculum difficult.

Reference [20] puts forward that, in order to realize the all-round development of students, we must reform the content of the curriculum and speed up the construction of the curriculum system by improving the teaching content. In reference [21] through the big data analysis method, in China, curriculum evaluation started late and developed gradually from the 1980s. The so-called curriculum evaluation is the process of judging the value or characteristics of related issues such as the plan, activities, and results of curriculum and teaching by certain methods and ways. Reference [22] research shows that the establishment of this teaching mode has realized the transformation of postgraduate English learning from teacher-centered to teacher-led and student-centered dual-subject teaching mode, from passive and cramming learning to creative learning with autonomy, interaction, cooperation and inquiry and from students’ busy exam-oriented education in the past to quality-oriented education to improve postgraduates’ comprehensive practical English application ability. According to reference [22], teachers should modify the previous curriculum.
model based on fundamental teaching, incorporate students’ diverse needs, and fully consider students’ individual differences in order to gradually establish a long-term mechanism of curriculum content. Specific ways can be used to combine compulsory and elective courses so that students can experience a variety of three-dimensional learning modes, thereby improving the overall curriculum system.

This paper constructs the public English curriculum system based on the “cloud interaction” teaching mode. It can cultivate students’ basic English skills, create a specific life situation, gradually improve their oral expression ability, and completely eliminate the phenomenon of “dumb English” in compulsory classes. Students can achieve the goal of learning in elective courses by participating in extracurricular practical activities, avoiding classroom instruction, and exploring scientific learning methods based on their own interests. Create a positive and exploratory learning environment for students in a positive teaching environment so that students can be influenced by teachers and other students and so that students’ learning enthusiasm and internal potential can be effectively stimulated.

3. The Principle and Model of “Cloud Interaction” Teaching Mode

The teaching mode of “cloud interaction” originated in the 1970s, and it is a popular method for learning languages in the west. It is a creative and pragmatic teaching theory and strategy. The essence of “cloud interaction” teaching mode is to combine the networked pure technical learning environment with traditional learning and give full play to the advantages of face-to-face teaching and online learning so that learners can obtain better learning results than single face-to-face teaching or single online learning. The most remarkable features of the “cloud interaction” teaching model are interactivity and participation. Participation shows that teachers plan and design interactive activities according to the teaching content and students’ individual learning needs and create a good learning atmosphere for students in rich teaching content. The “cloud interaction” teaching mode advocates that teachers are no longer enough to impart professional knowledge. Knowledge can be acquired in many ways, including multiple interactions between teachers and students and between students and students. This teaching mode advocates providing more opportunities for learners to practice language and emphasizes on gaining language longevity in application. Compared with the traditional teaching mode, which is teacher-centered, imparting knowledge in all aspects, students passively accepting knowledge, and exercises to consolidate knowledge, it is progressive, practical, and active. At present, in public English teaching in colleges and universities, teachers, as guides, popularize knowledge for students, while students occupy the dominant position in classroom teaching. English teachers play the roles of guidance and encouragement and constantly optimize students’ thinking ability, learning ability, and understanding ability in this interactive process, so as to make students more active in the classroom and achieve ideal teaching effect. The establishment of this teaching mode can better achieve “student-centered” learning, which is conducive to stimulating students’ learning motivation and cultivating students’ learning skills. The construction of the new curriculum system is shown in Figure 1.

This paper uses word vector model to vectorize text. Among them, the methods of public English courses are shown below

\[
\begin{align*}
    u_{\text{word}_1} + u_{\text{word}_2} + \cdots + u_{\text{word}_n}, \\
    u_{\text{word}_1} \cdot u_{\text{word}_2} \cdot \cdots \cdot u_{\text{word}_n} \cdot W + \cdots + u_{\text{word}_n},
\end{align*}
\]

where \( u_{\text{word}} \) means public English course, \( V \) represents the vectorization result of a word, \( W \) represents the weight given to the curriculum, and finally obtains the word vectorization result \( \text{txtvector} \) with curriculum weight.

Considering that degree words do not exist in every news, this paper designs a basic weight value

\[
\text{SAI}_i = \begin{cases} 
    P_i \cdot W, \\ 
    P_i \cdot \text{BV}.
\end{cases}
\]

Among them, \( \text{SAI}_i \) indicates the emotional intensity of the \( I \) news, and \( P_i \) indicates the emotional tendency of the \( I \) news. Because these three kinds of words do not always appear in public English courses, there are eight combinations \((C^3_3 + C^3_3 + C^3_3)\); one of which is expressed as formula

\[
\text{SAI}_i = P_i \cdot W \cdot W \cdot R.
\]

1. The theoretical value \( E_{11} \) is

\[
E_{11} = (A + C) \frac{A + B}{N}.
\]

2. The theoretical deviation of \( E_{11} \) can be obtained according to the following formula:

\[
D_{11} = \frac{(A + E_{11})^2}{E_{11}}.
\]

Among them, \( W \) represents the weight of the first category of words, and \( R_i \) represents the third category of words extracted from the \( I \)-th public English course.

In order to further analyze the effect of the classifier, this paper uses confusion matrix to observe the classification of the classifier in each class. The sum of each row in the confusion matrix represents the number of samples of this class, and each value of each column represents the value assigned to this class, which can be expressed as the formula

\[
S_i = \sum_{j=1}^{n} D_{ij},
\]

where \( n \) represents the number of categories, \( D_{ij} \) represents the number of samples of class \( I \) divided into class \( j \), that is, the value of column \( j \) in row \( I \), and \( S_i \) represents
the total number of samples of class \( I \), that is, the sum of row \( I \).

In this paper, the prediction results of each class in the confusion matrix are displayed in the form of ratio. The calculation method of each value in the confusion matrix is

\[
\text{percentage}_{ij} = \frac{D_{ij}}{S_i}, \tag{7}
\]

where \( D_{ij} \) represents the value of row \( I \) and column \( J \) and \( S_i \) represents the sum of row \( I \). Percentage \( ij \) is expressed as the probability that class \( I \) is predicted to class \( J \).

This paper averages the difference between the public English course \( SAI_i \) obtained from the experiment and the public English course \( E_i \) marked by experts, as shown below

\[
Y = \frac{1}{n} \sum_{i=1}^{n} |SAI_i - E_i|, \tag{8}
\]

The closer the public English curriculum system obtained from \( y \) Yueming experiment is to the public English curriculum system marked by experts and the larger it is, the more it deviates from the public English curriculum system marked by experts. Therefore, the experimental results can be better analyzed.

In English classroom teaching, I try the teaching method of combining classroom teaching with on-site simulation, based on the teaching guiding ideology of “cultivating the ability to use language for international communication.” Our classroom experience has shown that this method is effective in developing students’ ability to use language for international communication and even in developing high-level international communication talents. Rather than simply uploading teaching resources to the network teaching platform, the course team focused on the development of a school-based textbook cloud interactive English and investigated the problems of “what to teach,” “how to teach,” and “how to assess” in current public English teaching in Higher Vocational Colleges through the unwavering efforts of many links such as theoretical learning, in-depth research, and top-level design. Figure 2 depicts the “cloud interaction” mode construction process.

In the process of compiling cloud interactive English, we sorted out the foreign-related general communication scenes of students in the future workplace and life and made clear the “listening and speaking” themes of eight units: introduction and greetings, reception of foreign customers, hospitality and accompanying sightseeing by foreign customers, business trip by plane, staying in foreign hotels, overseas land transportation, overseas shopping, and handling emergencies abroad. These teaching themes and corpora are authentic, which can stimulate students’ enthusiasm for English learning from the learning content and make students have a sense of gain, thus forming a virtuous circle of teaching and learning. Interactive teaching mode requires students to make full preparation before class. Prepare the text content, form your own opinions, and prepare for each class. This mode, whether in the classroom lead-in or classroom teaching, fully combines students’ actual English level and applies practical teaching methods so that students can easily integrate into regular learning activities and interpret language with examples and life fragments around students and lets students naturally accept language, actively use language, and exercise their oral expression ability and listening ability by using language, which is more in line with learning goals.

4. Research on the Construction of Public English Curriculum System

4.1. Construction of Public English Curriculum System Based on “Cloud Interaction” Teaching Mode. Through student individual interaction, or group interaction, or student teacher interaction, make students understand the importance and role of cooperation. With the full use of multimedia and network and the raising of open-ended questions, students have to think about some new presentation
methods, novel abundant questions, creative language expression, and unique answers, which cultivate students’ cooperative spirit and innovative consciousness and meet the needs of the development of social situation. Learning objectives are directional and play an overall guiding role. In the process of dynamic learning, different classroom teaching activities are designed in combination with the different characteristics of each topic to help students achieve the established learning objectives. Students themselves can timely obtain feedback information from the network autonomous learning system, analyze their learning situation, and then select appropriate learning content, learning method, and progress according to their actual situation. This kind of after-class network teaching completely avoids the interference and restraint caused by students’ individual differences in classroom teaching and eliminates the unnecessary psychological pressure of students in the learning process. If a few students are shy and not good at expressing themselves, they do not get equal opportunities to express themselves in class, and after-class learning makes them relax themselves and gives full play to their subjective initiative in learning, more effective learning. Learning should be positive. Therefore, when processing the input learning information, students need to participate in meaningful practical activities in order to internalize the learned knowledge and transform the knowledge into practical language application ability. When interactive teaching is applied in public English class, English teachers need to pay attention to interactive feedback, which plays an important role in strengthening students’ learning self-confidence and improving students’ enthusiasm for classroom participation and can also make students have a clear understanding of their shortcomings and advantages in the learning process. Offering public English courses in the “cloud interaction” teaching mode, on the one hand, is to meet the national strategic needs and serve the national reform and opening up economic and social development; on the other hand, it is to meet the needs of students in professional learning, international exchange, further study, work, and employment; and colleges need to strengthen exchanges with employers. Make more students get employment opportunities, so as to improve the motivation of learning, and strive to learn the public English course of “cloud interaction” teaching mode well.

First of all, colleges and universities should establish a school-enterprise cooperation system to allow more enterprises and institutions to enter the campus recruitment so that students’ English ability can be fully exercised. Secondly, the school should strengthen the cooperation among English teachers, professional teachers, and employers to form a curriculum system research group and actively explore teaching methods suitable for students. In order to highlight the focus of the public English course of “cloud interaction” teaching mode, more students are interested. On the other hand, the aim of teachers in class is to learn from others, seek quality in quantity, teach and answer questions through key points, and play a finishing role for students in the limited teaching hours. “Bo Guan” means that the content of audio-visual and speaking should be broad. Compared with undergraduate colleges, higher vocational colleges emphasize more on applicability and practicality. Students should be guided to reposition their roles, clarify their work in the group discussion process, and assign recorders, discussants, team leaders, and other roles so that students can conduct group discussions efficiently and encourage each group to actively participate in the discussion. Students remain stuck...
in a state of passive acceptance of language and are unable to delve deeply into the practical operation of active and flexible language use. As a result, most students study English for over ten years and cannot read simple English magazines and cannot or will not speak one or two sentences in English. Manage the entire class’s “teacher-student communication” forum, where students can communicate with teachers or classmates and have their problems addressed quickly. Through the “teacher-student mailbox,” students can ask teachers questions directly. Teachers will provide students with personalized guidance on English learning methods and strategies based on their individual learning differences, encourage students to build their own language knowledge system through autonomous learning, and effectively solve the serious problem of significantly reducing teaching hours in class.

Higher vocational students are more required to learn and use flexibly, say more, ask more, practice more, and participate in more classroom activities in class. This requires teachers to fully consider the actual language application ability of learning cattle when designing classroom activities and arrange the preparations for each link of the classroom before class. Let students get ready before class, so as to actively participate in classroom activities. In the selection of audiovisual materials, we take into account the principles of practicality and knowledge, interest and academic, classics and times of audiovisual materials and pay attention to novel content, wide range of themes, and diverse genres. According to students’ interests, assign tasks to students and try to make students fully prepared before class and actively participate in classroom teaching activities. In this series of activities, teachers always play the role of participant, organizer, and guide. The teaching contents of “cloud interaction” teaching mode include university campus life, love and marriage, health, gender differences, ethics, human and nature, sports, music, cultural differences, high technology, and religion and belief and strive to standardize the language and have a positive style. “Appointment” refers to the “new knowledge” and “new skills” acquired by students through audiovisual exercises. Through student individual interaction, or group interaction, or student teacher interaction, make students understand the importance and role of cooperation. Students must consider new presentation methods, novel abundant questions, creative language expressions, and unique answers as a result of the extensive use of multimedia and network, as well as the raising of open-ended questions. It has cultivated the cooperative spirit and innovative consciousness of students in order to meet the needs of the evolving social situation. In the autumn of 2014, in response to the school leaders’ instructions on public English reform, the school leaders, the academic affairs office, the graduate department, the college leaders, and responsible teachers at all levels discussed and established the integrated curriculum system of the university, the master’s, and doctoral programs. In the public English curriculum system, English teachers continue to focus on instilling theoretical knowledge in students, and after demonstrating English reading, students are encouraged to follow along in order to improve students’ oral expression and listening skills. Simultaneously, under the “cloud interaction” teaching mode, English teachers have complete control over teacher-student interaction. English teachers determine the format, content, and timing of interactions, and students can only accept it passively.

4.2. Experimental Results and Analysis. The whole process of assessment is realized, which effectively stimulates students’ learning enthusiasm. Three experiments were carried out, respectively, and the result of setting the score weight of each link of the vocational education cloud platform is shown in Figures 3–5.

After three experimental comparisons, it can be concluded that the final total score of students = vocational education cloud score × 70 percent + ISmart platform learning score × 40 percent + cloud interaction app score × 20 percent in the “cloud interaction” teaching mode. The process evaluation includes students’ online and offline learning activities. Teachers use the teacher side of the vocational education cloud platform to initiate interactive activities such as questioning, brainstorming, and discussion in the classroom. The system will score intelligently as long as students participate. The unprecedented increase in student participation in the classroom has changed the traditional teaching mode’s situation of “one speech, full house” of teachers and ensured students’ dominance. For the evaluation of teaching materials, curriculum arrangement, teachers’ teaching level, and teaching methods, various evaluation methods and technologies are used: first, individual interviews and small seminars are used for the evaluation of teaching materials, curriculum arrangement, teachers’ teaching level, and teaching methods. The second is a questionnaire survey, which covers topics such as teaching materials, teaching methods, curriculum planning, and teaching management. The main focus of the questionnaire survey is on the quality and impact of teaching. The third is the expert evaluation method, which mainly includes the lecture records, inspection results, and evaluation of professor-level experts such as teaching departments, academic affairs office, supervision office, and college leaders. The fourth is the comparative method, which analyzes the improvement of students’ performance, the passing rate of graded examination and the passing rate of application ability examination, the strengthening of students’ subjective initiative, the increase or decrease of class hours of various courses, the investment of teaching equipment, etc.

This research is aimed at the students of Guangzhou Modern Information Engineering Vocational and Technical College and totally covers the students of seven departments including Information Engineering Department, Mechanical and Electrical Engineering Department, Automotive Engineering Department, Architectural Engineering Department, Business Administration Department, Economic and Trade Department, and Art Design Department. The experiments are divided into three times, and the experimental results are shown in Figures 6–8.

According to the three experimental charts, 78.54 percent of students believe that teachers should improve their student communication skills, 75.45 percent believe that
Figure 3: Trend chart of assessment rules of vocational education cloud platform.

Figure 4: Trend chart of assessment rules of vocational education cloud platform.

Figure 5: Trend chart of assessment rules of vocational education cloud platform.
teachers should improve their teaching ability, 68.26 percent believe that teachers should pay attention to ways to improve students’ learning enthusiasm, and 63.85 percent believe that teachers’ professional skills should be improved. This demonstrates the need for teachers’ teaching quality to be improved further in order to ensure that English public course teaching activities proceed smoothly. We must reform the curriculum’s content and speed up the curriculum system’s construction by improving the teaching content in order to achieve students’ all-around development.
Teachers should modify the previous curriculum model, which focused on fundamental teaching, to include students’ diverse needs and take into account their personality differences in order to gradually establish a long-term curriculum content mechanism. In order to prevent some students with poor English level from being unable to understand the summary contents of some students with better English level, English teachers can extend the time in the communication process to let students think deeply so that students with poor English level can organize language and think about discussion contents, so as to bring all class personnel to participate in the interactive English teaching mode.

5. Conclusions

The interactive teaching model is now widely used in public English classrooms in colleges and universities, resulting in improved teaching quality. This teaching method also allows students to improve their English expression and application skills while learning more about the language. Students agree with the English Education Center’s teachers’ interactive teaching method and believe that it is critical to improve their oral English or communication ability. Students, on the other hand, believe that if we can fully utilize the multimedia classroom for teaching, the results will be better. Media interaction, article interaction, and cognitive thinking interaction are all examples of interactive teaching methods. In interactive English teaching, these methods progress layer by layer. Teacher-student interaction and student-student interaction have been running through the entire English teaching, giving full play to students’ dominant position, stimulating students’ interest and improving students’ cognitive thinking ability, improving higher vocational students’ team cooperation ability and language expression ability, and finally having a far-reaching impact on students’ English learning. Teachers should employ advanced teaching methods to continuously improve all teaching links in order to create a diversified, three-dimensional, and dynamic curriculum system that meets students’ developmental needs. I believe that this can be accomplished through the collaboration of teachers and students. The evolution of the public English curriculum system will be more precise and forward-thinking. English teachers have complete control over teacher-student interaction when using the “cloud interaction” teaching mode. English teachers decide on the format, content, and timing of interactions, and students can only accept it passively.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The author does not have any possible conflicts of interest.

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