Construction and Application of Computer-based English Teaching Management System

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Abstract. Nowadays, teaching and learning based on computer information technology is becoming more and more popular and will undoubtedly become a standardized teaching mode in the post-popular era. This article discusses in detail online English teaching based on the Internet: First, it defines the online online English teaching; then it explains some principles and characteristics, summarizes several common online online teaching models; finally, it points out the advantages and advantages of the current online online English teaching limitation. At the same time, the article also studies the construction strategy of a computer-based college English teaching management system in order to provide help for college English teaching management.

Keywords: Online Teaching, English Learning, Teaching Modes, Computer, Teaching Management System

1. Introduction

At the beginning of 2020, an unexpected epidemic swept across the country, bringing unprecedented disaster to the whole country. Almost everyone is trapped in their homes. In response to the call of the public, people voluntarily stayed at home and made great sacrifices and contributions to the fight against the epidemic[1-2]. The battle against COVID-19 has brought unprecedented challenges and opportunities to education and teaching, and changed the traditional teaching modes and methods. The online teaching and learning based on information and network technology emerges as the times require[3]. A large number of online-based courses come into being at the historic moment, brings the reform and innovation of teaching technology and form, esp. to English teaching and learning. This year, all kinds of schools at all levels, from primary to colleges or universities, conduct the online courses and online teaching and learning[4-6]. They made positive and beneficial attempts to online courses and online teaching, which laid a solid foundation for future online courses and network teaching and learning, and accumulate rich experiences for our teaching and learning in the post-epidemic era.
2. Definition and Principles

2.1. Definition

Online-based teaching and learning is a kind of teaching mode by applying multimedia and information technology, which has the same teaching goal with traditional classroom teaching, but adopts different approaches and methods based on modern network and information technology. Under the guidance of certain teaching theories and thoughts, the online-based teaching and learning manages to realize the teaching aims through the multi-lateral and multi-directional interaction of teachers, students and media and the collection, transmission, processing and sharing of teaching information of various media (retrieved from baike.baidu).

Obviously, Online-based English teaching and learning is also a kind of English teaching and learning mode and approach. It mainly applies modern information and network technology to enable students to learn and master English as a foreign or second language in China, and to master the language skills, including listening, speaking, reading, writing, and translation, so as to skillfully use English as an international communication tool to serve the social and economical development.

2.2. Principles and features

2.2.1. Student-centeredness and teachers’ guidance. The online-based English teaching model is more student-centered. In the online English teaching, students are the primary actors of teaching and learning. All the teaching activities, teaching devices, and teaching modes and approaches serve students learning needs and gains. If students are rewarded and benefited in the teaching, it’s the true teaching and learning. So, in the online English teaching, students play the central role in the whole process. Online English teaching should reflect the principal position of students and focus on students, which is conducive to the cultivation of students’ interest, inspiration, induction and real mobilization of students’ enthusiasm, initiative and creativity in English learning.

However, merely dependence on students’ individual effort may lead to students’ puzzlement or difficulty. Students may be at a loss sometimes because of the limitation of students’ cognitive level and ability. Therefore, an optimum online English teaching should integrate students’ initiative and teachers’ direction and guidance. On one hand, it’s vital to ensure students’ central position and dynamic role in the teaching and learning; on the other hand, teachers should offer timely their help to organize, coordinate and direct students and make sure the utmost effect of English teaching and learning.

2.2.2 Self-discipline and monitoring. Online English teaching is the distant education. It depends largely on students’ self-discipline and self-awareness. In the online English teaching environment, teachers and administrators can not see face to face the students, and they cannot watch and monitor students’ each action and performance. If students are on the line during the whole teaching process but they don’t listen to the teacher and participate in the teaching activities attentively, it’s not easy and obvious for teachers to find out and correct it. Therefore, in the online English teaching, students’ self-discipline and self-awareness seems to be especially important. If students lack self-discipline, the teaching and learning efficiency and outcomes cannot be ensured. Therefore, for a successful online English teaching, it’s essential to establish a set of sound monitoring and regulatory system to make sure students really learn and benefit from the online teaching (Beldarrain, 2006).
2.2.3. **Autonomy and individuality.** Teaching in the network environment, students are supposed to be more autonomous and dynamic, which is the most significant difference between the traditional classroom teaching and the virtual online teaching. The key to the success of online English teaching lies mainly in students’ autonomous and active learning. As we all know, in the online English teaching, students can study independently, control the learning rhythm and content, even leave a certain amount of time and space for their thinking. This kind of teaching and learning largely depends on students’ autonomy and initiative. Teachers should make use of the characteristics of the dynamic interaction between students and teachers, take students’ initiative, exert students' reasonable imagination, excavate students' innovative spirit and ability, and eventually cultivate students’ language skills and improve their comprehensive English level. Of course, for students with poor autonomous learning ability, there are also great limitations. Also, if the idea of exam-oriented education is applied to the network teaching environment, and the capacity of network classroom teaching is expanded infinitely, it will increase the burden on students and kill their reasonable imagination and creative thinking (retrieved from baike.baidu).

Online English teaching completely changed the past single classroom teaching mode, like the cramming mode of English teaching with same practice in all situations. It pays more attention to students’ individuality and personalized teaching. In the network teaching environment, it is made more in line with the law of pedagogy, more able to adapt to various learning situations and different types of students. According to students’ personalized learning goal, and in line with their knowledge, understanding, personality and English proficiency, teachers can fully use the advantage of network education, and set up different scenarios, make demonstration of different cases, ask different questions, provide different methods, make different requirements, etc., so that students of different levels have the opportunity to complete the teaching mission. This environment can effectively teach students in accordance with their aptitude and comprehensively improve the ability of all students (Juwu Zhang, 2014).

2.2.4. **Repeatability and flexibility.** In the online English teaching, the whole teaching process can be recorded intentionally or automatically, and all the relevant teaching and learning resources and materials can be uploaded and stored online for a long time or even permanently. Teachers can share the live playback to students. Therefore, students can playback the whole English teaching or some session of English teaching, and learn English online repeatedly at any time and place to strengthen the learning effect.

In the network teaching environment, when a live session is over, the live duration, students’ attendance, viewers, statistics likes and comments will be auto-generated. With the help of this information technology, both teachers and students can instantly access to the related statistics, and they can timely learn about teaching and learning situation and outcomes. In doing so, they can frequently check and evaluate their English teaching and learning effect and efficiency, so as to make some supplement, correction and remedies. Moreover, due to the characteristic of asynchronous teaching in the network environment, students can carry out English learning 24 hours a day. Each student can determine the learning time, content and progress according to his own actual situation. He can download the learning materials or access to learning resources easily on the Internet or consult the teacher at any time anywhere. Therefore, online English teaching has great flexibility (Juwu Zhang, 2014).
3. The Major Online Teaching Modes and its Application

3.1. The major online English teaching modes

Online-based language teaching has been discussed for decades. However, it has not been really and widely applied until the outbreak of COVID 19 early this year. And it will undoubtedly become one of the most populous and efficient teaching modes in post-epidemic era. Currently, there are mainly five online-based English teaching modes (see Table 1). They are to be discussed separately as follows.

| Online-based Teaching Modes                                      | Features                                           |
|-----------------------------------------------------------------|----------------------------------------------------|
| Lecture-based online teaching                                   | more teacher-centered, systematic, more synchronous|
| Demonstration-based online teaching                             | more teacher-centered, picturesque, situational simulation |
| Exploration-based online teaching                               | more student-centered, explorative, practical, task-based, active |
| Discussion-based online teaching                                | more student-centered, communicative, interactive, more synchronous |
| Information collection and collation-based online teaching       | more student-centered, inquiry, task-based, intercultural, more asynchronous |

3.1.1. Lecture-based online English teaching mode. The lecture-based online English teaching mode is the new development of traditional class teaching in network environment. It is a teaching mode based on the use of the Internet as a communication tool between teachers and students, and it is more teacher-centered and systematic. The so-called lecture-based online English teaching can be divided into synchronous mode and asynchronous mode. In the synchronous English teaching mode, students can listen to the teacher by means of Internet at the same time and have some simple communication between teachers and students in English, which is the same as the traditional teaching mode, except that teachers and students do not attend classes at the same place. Asynchronous English teaching can be achieved simply by using the Internet service and e-mail service (Muhammad Kamarul Kabilan, Norlida Ahmad, etc., 2010). In this mode, teachers make teaching requirements, teaching content, teaching evaluation and other teaching materials into HTML files and store them on the web server. Students can browse these pages to achieve the teaching object and learning purpose.

3.1.2. Demonstration-based online English teaching mode. Demonstration-based online English teaching mode is a direct extension of the traditional English teaching mode. In this mode, teachers use the network to demonstrate various teaching information to students according to the teaching aims and contents. The teaching information can be CAI courseware made by teachers, or teaching resources and materials from school network or the Internet. In the demonstration-based online English teaching, teachers can simply display the relevant blackboard writing content, teaching charts, physical models, etc. processed through computer to students, which is equivalent to an efficient and flexible projector. In this mode, teachers can also make the simulation of various scenes, so that students in the classroom can experience the English communication similar to the actual situation. This mode will remain the
main mode of online teaching in many schools for a considerable period of time (Jihua Fan, 2018).

3.1.3. Exploration-based online English teaching mode. Exploration-based online English teaching mode covers a wide range of areas on the Internet, from simple e-mail to large, complex learning systems. In this mode, teachers first set some situations to use English or let students complete tasks; students analyze the situation or task set by teachers and then try to collect information to solve the problems; next students make a self-evaluation of their performance or the teacher make a conclusion; finally, students reflect on the practice or performance in English learning.

While exploring and acquiring language knowledge independently, students also improve their language ability and skills to solve problems independently. The exploratory learning mode can effectively promote students' English learning enthusiasm, initiative and creativity. In particular, students play two roles in the process of learning, that is, they are not only learners of knowledge, but also researchers and explorers of problem solving. It can overcome the disadvantage that students always passively accept knowledge in the traditional teaching process and is an effective way to cultivate innovative talents adapting to the future social development.

3.1.4. Discussion-based online English teaching mode. Discussion teaching mode is characterized by the interaction between teachers and students, by the use of heuristic teaching, and it focuses on the discussion of problems. Discussion-based online English teaching mode carries out all the discussions in English on the line. In web-based discussion classes, BBS or e-mail mailing lists are often used to discuss and answer specific questions in English. Because of its low cost and easy management, the discussion-based English teaching mode has been widely used in modern online English teaching (Juwu Zhang, 2014).

3.1.5. Information collection and collation-based online English teaching mode. In this model, teachers first ask students questions or set tasks in English, then guide students to query and collect the diversified and rich English information provided by the network, and help students to screen, analyze and reorganize the collected the information, and propose solutions based on students' own views. This mode is helpful for cross-cultural communication. The Internet provides students with information from all over the world and cultures, promotes the students' understanding of foreign cultures and civilizations, and provides a foreign cultural environment. In this environment, the students can learn English with its own cultural environment, and extend their horizon. Therefore, it will enhance students’ cross-cultural communication and help to improve their foreign language level (retrieved from baike.baidu).

3.2. The application of online-based teaching modes

3.2.1. Teachers’ priority. As to the application of online-based English teaching modes, each teacher has his/her own teaching style and characteristics, and different teachers tend to adopt different online teaching modes and methods. They have their individual priority and tendency in the past term of 2020 (see Table 2).

| No. | Online Teaching Modes | Percentage |
|-----|-----------------------|------------|

Table 2. Major online teaching modes and teachers’ priority & use frequency
Lecture-based online teaching 30%
Demonstration-based online teaching 37%
Exploration-based online teaching 6%
Discussion-based online teaching 18.5%
Information collection and collation-based online teaching 8.5%

From the Table 2, it can be seen that most English teachers tend to adopt demonstration-based online teaching mode in their English teaching, and the demonstration-based online teaching and lecture-based online teaching adds up to 67% among all the teaching modes. The least frequently used mode is the exploration-based online teaching, which only takes up about 6%. It indicates that the so-called online teaching was still more teacher-centered and demonstration-oriented, though they were conducted on the line. In particular, the doing and tasked-based online teaching and learning modes should be advocated and strengthened.

3.2.2. Students’ attitude and favorability. According to the survey and author’s observation, students’ attitude toward online teaching and learning are positive. More than 93% students like online-based English teaching and learning, and they are very active and enthusiastic in online learning, but their favorability is different related to each online teaching mode. Table 3 shows students’ favorability proportion in online teaching and learning.

Table 3. Students’ attitude & favorability

| No. | Online Teaching Modes                        | Percentage |
|-----|----------------------------------------------|------------|
| 1   | Lecture-based online teaching                | 16%        |
| 2   | Demonstration-based online teaching          | 34%        |
| 3   | Exploration-based online teaching            | 10%        |
| 4   | Discussion-based online teaching             | 25.5%      |
| 5   | Information collection and collation-based online teaching | 14.5%      |

Obviously, students also like the demonstration-based online teaching mode most probably because it’s interesting and easy to deal with. Students don’t need to take too much effort and after-class time to complete the exercises or tasks. Compared with teachers’ tendency to the lecture-based online teaching mode, students’ percentage is only 16%, maybe due to its dullness and teacher-centeredness. And students prefer to discussion-based and information-based online teaching modes because they are communicative and practical, and more student-centered.

4. Strengths and Limitations

4.1. Strengths
Firstly, online English teaching breaks the limitation of traditional teaching in time and space. In traditional teaching, the teaching activities of teachers and students are limited in a specific space and time (classroom, laboratory, etc.). In the online teaching environment, both teaching and learning are free of time- and place-restriction. Both teachers and students can work and study online anytime and anyplace providing they have a computer, a pad or a mobile phone access to the Internet (Juwu Zhang, 2014).

Secondly, online-based English learning is a more personalized learning style. Students can choose their learning time, place, duration, and learning platform and devices which are more suitable for themselves; they can even control their learning speed, rate and process; students can also arrange the learning sequence and decide their learning priority according to their own interest, personality, hobbies, learning style, English proficiency, etc. In the online English teaching, learning object, learning content, learning materials, and exercises are mostly designed in different difficulty, level, requirements, and different workload. They are tailored to students’ distinctive needs and goal.

Thirdly, online English teaching is more convenient and flexible. Online English teaching satisfies the learning needs of those who want to learn English but who are busy with other work or study and lack of time or opportunity to attend classes. Students can communicate on a one-to-one or a many-to many bases(Juwu Zhang, 2014). Teachers put teaching and learning materials or resources and related contents on a server that can store information dynamically for a long time. Students can browse learning resources through the Internet at random or communicate with teachers and peers on the Internet. In this way they are free to arrange their learning more rationally and flexibly.

Fourthly, online English teaching is more informative. It can greatly broaden the knowledge of college students. In traditional teaching, the teaching object and content are limited. Students are confined to the classroom scope of knowledge. However, in online English teaching environment, teachers can add and update the content in the network learning server at any time, and constantly expand the teaching information and capacity; students have much more English learning platforms and abundant learning resources. They are free of traditional teaching object and content restriction. At the same time, teachers and students can have a wide discussion and exchange, broadening the scope and communication of teachers and students.

Finally, online English teaching makes academic evaluation more open, fair and just. In online teaching, self-test management, homework submission and grading are mainly completed through the Internet. Most of the checks and evaluations are completed by computer automatically and immediately. Experts, teachers, students and anyone in the society can participate in the academic evaluation with the help of the openness and information sharing of the Internet. Therefore, the evaluation of students’ work and performance are more transparent, accurate, just and fairer.

4.2. Limitations

Firstly, in the online English teaching, due to lack of face-to-face communication between teachers and students and on-site supervision, copying, plagiarism and cheating will occur when students complete their homework and study tasks. Some students may even ask for others to do the learning, finish their homework and conduct the study tasks for themselves in order to meet the learning requirements and get their credits.
Secondly, online English teaching and learning is not good for students' body. In particular, long period of online learning may undermine students’ eyes. Using and watching for long time computers, mobile phones, pad and other devices will gradually do some harm to students' eyesight, which is not conducive to students' health and cause students' visual impairment. Therefore, it’s urgent to take measure to protect students’ eyesight in the online English teaching and learning to promote student body and mind healthy.

Thirdly, online English teaching and learning involves modern information and multimedia knowledge and technology. To carry out network teaching, both teachers and students must have certain knowledge of modern information technology. However, information technology education in universities lags behind relatively, which limits the development of online teaching. Educators and students, esp. teachers need to acquire the information and network knowledge and skills so as to address various unexpected issues and problems arising during the online classes.

Thirdly, how to monitor and supervise the whole process of online English teaching and learning is an issue to deal with. As we all know, online English teaching is a virtual teaching. Teachers cannot watch and examine students' actions and behaviors. Most of time, students appear to be on the line and seem to be learning, but actually what they do is unknown. Frequent, students are just log in and pretend to be on the line to attend the class, but they are actually on the street, on the playground or somewhere else, and engage in something else. They even really attend the class but don’t keep their mind in the teaching and learning. Therefore, how to improve the level of monitoring and administration is really a challenge. It’s urgent to address the problem in the future online teaching and learning.

Finally, during the past term, although the online-based English teaching is conducted, in some degree, it’s still more teacher-centered and in form. It’s not the complete online English teaching in essence. After all, students succumb to certain inertia, and they tend to choose the simpler and easier online teaching modes. Therefore, teachers have to put proper pressure to them and give them more explorative, practical and communicative work and tasks, any manage to arouse students’ enthusiasm and initiative.

5. Conclusion

Online English teaching is the trend of future English teaching and learning. It can give students more flexibility and greatly enhance English teaching and learning in China. In the post-epidemic era, we must take advantage of the strengths of online English teaching and implement online-based English teaching in colleges and universities in a large scale. At the same time, we also need to gradually improve the management system of college English teaching, build a teaching management model that is in line with students' learning and growth, and actively use computers and other science and technology as assistance in the management process to ultimately help students learn English better.

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