A Study on the Integration of Network Technology into College English Teaching

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Abstract   China's State Education Ministry has started a reform in College English teaching since 2004, in order to change the present education situation, in which there are less teachers, bad learning environment and students' poor ability of using English. A formal version of College English Curriculum Requirements was issued in 2007, which encourages the extensive use of advanced information technology, especially Network-based technology in College English teaching. To testify the implementation of the Requirements, the author observed some classrooms in some universities only to find the result unsatisfactory. Some English teachers misunderstand the requirements. Comparing the observations with the Requirements, the author of this paper thinks it is necessary to differentiate Network-based teaching from Computer-assisted Instruction and Computer-assisted Learning, thus putting forward some suggestions based on the Constructivism Theory to integrate Network-based technology into College English teaching and perfect College English teaching and learning.
Key words   Education reform; Network; Computer-assisted instruction; Computer-assisted learning; Constructivism theory; Integration

1 Introduction

Most colleges and universities in China are faced with heavy constraints of obvious increase in student enrollment and lack of qualified English teachers, less learning resources and students' poor ability of using English. With an eye to solving these problems, keeping up with the new developments of higher education in China, and improving teaching quality to meet the needs of the country and society for qualified personnel in the new era, China's State Education Ministry has started a reform in College English teaching since 2004, leading higher education to greater reliance on information technology. A formal version of College English Curriculum Requirements[1] was issued in 2007, which encourages the extensive use of advanced information technology, especially Network-based technology in College English teaching. However, how to make an effective use of Network-based technology or how this mode of teaching is implemented in classrooms is still a great concern to most teachers. To find out the truth, the author observed some classrooms in some universities and compared the recordings with the Requirements. This paper is to analyze the differences and generate an improved model based on constructivism theory in College English teaching.

2 College English Curriculum Requirements

According to College English Curriculum Requirements, the extensive use of advanced information technology should be encouraged, computer- and Network-based courses should be developed, and students should be provided with favorable environment and facilities for language learning. All the courses, whether computer-based or classroom-based, should be fully-oriented, taking into account students with different starting points, so that students who start from lower levels will find room for further development. The new models should be built on modern information technology, particularly network technology, so that English language teaching and learning will be, to a certain extent, free from the constraints of time or place and geared towards students' individualized and autonomous learning.

Different from the traditional teaching model, these teaching models include online autonomous learning, which places a premium on individualized teaching and independent learning and makes full use of the special functions of the computer in assisting learners with repeated language practice, especially with training in listening and speaking ability. While taking advantage of the teachers' lectures and coaching, students can be assisted by computers in choosing the appropriate content and methods of learning according to their specific needs, proficiency and schedules under the guidance of teachers, so that their all-round ability to use English can be improved and the best effects of learning achieved.

In the process of Network-based English teaching models, the teacher's role of face to face coaching should be stressed. It could take the form of group work, focusing on checking students' independent learning and cooperative learning, and providing due guidance and assistance for students. In principle, at least one hour of coaching should be offered after every 16 to 20 hours of students' autonomous learning. The ultimate goal is to prepare the students for their future life-long independent English learning in the highly-developed information society.

3 Recordings of the Present Classroom Teaching

Wuhan University of Technology was one of the first 31 universities that first tried to implement the new teaching mode in 2004. In recent years we observed classroom teaching and exchanged teaching experience with teachers of other universities in China. Here the author presents the recordings of two typical types of classroom teaching:

Recording 1:

Course name: Intensive Reading

Step 1: The teacher played a video first to attract the students' attention to the topic and introduced the background information of the reading text with the help of very beautifully-made powerpoint (PPT);

Step 2: The teacher asked several relevant questions to elicit the answers from the students;

Step 3: The teacher guided the students to discuss the main idea and the structure of the reading text so that the students have a global understanding (using PPT);

Step 4: The teacher played the recording of the text, stopping at the end of each paragraph to ask questions about comprehension or explain the use and usage of some new words with PPT;

Step 5: The teacher asked the students to summarize the text before she concluded the class.

Recording 2:

Course name: Listening and Speaking

Step 1: The teacher introduced the topic first and guided the students to choose and discuss their favorite topics listed in part A of the textbook(pair work);

Step 2: The teacher made some comments on the students' presentation;

Step 3: The teacher first asked the students to read the new words after her; then she played the recording of the passage in part B and the students listened and did the exercises. After that, the teacher checked the answers, analyzed the students' choices and played the recording again.

Step 4: Students practiced the dialogues. The teacher asked 2 pairs of students to present their dialogues in class before she concluded the class.

Compared with the traditional "blackboard plus chalk" mode, these two modes have made use of the computer instead of the blackboard, but the teaching nature is the same---teacher-centeredness. In the first classroom, the teacher explained the text with PPT, in which the computer was only an assisting tool and the students were passively listening to the teacher. In the second classroom, the teacher played the recording of the passage with the help of the computer. The teaching content and students' oral activities were limited to the textbook. Students showed no interest in them because of limited vocabulary. In the talking after class, the two teachers said the online learning (required in the Requirements) only took place in the computer rooms, in which computers are internet zed. Students can have access to a vast amount of authentic and up-to-date audio and video exercises in the computer rooms. They can learn at their own pace.

These two teaching modes are typical Computer-assisted Instruction(CAI) and Computer-assisted Learning (CAL) at present in Chinese universities, separating online learning from classroom teaching. The computer works only as an assisting tool in class, allowing students the freedom to conduct autonomous learning after class with or without the teacher in the computer rooms. Autonomous learning is also isolated from classroom teaching. And the teacher is still the center of teaching. This is a misunderstanding of the reform, so it is impossible to reach the aim of the reform because the computer technology has not changed the nature and structure of teaching.

4 Development of Computer-based Teaching

4.1 CAI and CAL

CAI was first used in language teaching in 1980s. It can combine the teaching materials such as pictures, sounds, cartoons, flashes and words together to motivate students' enthusiasm, and go-aheadism, better than traditional "chalk and talk" mode. Typical CAI at that time was

Drill-and-Practice Model. According to this model, adequate drills and practice can help learners to perform. In other words, the computer assists the teacher, but it works only when the teacher operates it, using it to conduct drills and exercises among the students. The courseware can only reinforce old knowledge, not suitable for obtaining new information. And the teacher is the center of the classroom.

CAL was popular between middle 1980s and middle 1990s, switching from the teaching-centeredness to the learning-centeredness. The computer works as teachers' assisting tool in displaying difficult and key points. The teaching content is based on the textbook. The students are the objects of knowledge input and the teaching structure is still teacher-centeredness.

4.2 Network-based teaching

Language learning environment is very important to Chinese students. Chinese students, different from those coming from India or Singapore who work or study or live in English speaking countries, learn English as a foreign language. They lack of language environment. Their only language environment is the classroom. The present classroom teaching focuses on knowledge input instead of ability improvement, resulting in too many poor English speakers. To solve this problem, CAI or CAI is not enough.

To solve the problem of language environment, we cannot rely only on the computer as an assisting tool. Modern Network technology makes it possible to create a mock language environment in which students can pick up the target language as if they were in an English speaking country. Students can talk in small groups around the computer. Access to the Internet also brings the world into the classroom. They can download a wide range of informative, educational, and entertaining materials. This provides them with opportunities for genuine communication outside the classroom. Although information technology on the development of mutual-motivation is not perfect at present, the function of the computer has exceeded its assisting function. In foreign language learning, learners and computers have formed a human-computer society. Depending on computer-human mutual learning, education will exceed limitation of conventional learning approach. By the way of suppositious class discussion and talk on the Internet, advice feedback and so on, the learners, as the center of teaching and learning, will communicate and learn better. This is the essential of Constructivism Theory.

5 Constructivism Theory

Current modern education theory is moving from the traditional recalling facts, principles or correct procedures into the areas of creative thinking, problem-solving, analysis and evaluation[2]. According to the Constructivism Theory, knowledge is not taught, but is learned by the learner himself through constructing new knowledge on the basis of old knowledge, under a certain setting, with the help of others, such as teachers and study partners, utilizing certain study resources. It stresses the variety of teaching and learning resources, and argues that language learning is mediated by tools and signs[3] Students are the center of learning. They work individually or in small groups to explore, investigate and solve authentic problems, becoming engaged in seeking knowledge and information, rather than being passive recipients.

To be brief and to the point, Constructivism includes: student-centeredness, emphasis on students' active exploration, active discovery and active construction of knowledge. In this process, students must play an active part in their learning process and be autonomous learners who are actively engaged in constructing new meanings within the context of their current knowledge, experiences and social environments. In a constructivist learning environment, students learn by fitting new information together with what they already know and actively construct their own knowledge and solutions to the problems. So students should be the center of teaching and student-centered methodology should be used. We should make full use of the Network resources to create an ideal teaching and learning environment and solve the problem of improving students' application ability. That is, to reach the aim of the teaching reform, we need to integrate Network technology into College English teaching.

6 Integration of Network Technology into College English Teaching Based on Constructivism Theory

Network technology and Curriculum integration means that Network technology becomes an integral part of the whole curriculum design, including course structure, course content, course resources and course implementation[4]. This integration is quite different from CAI and CAL. It is wrong to think that applying multimedia and courseware in the classroom is integrating Network technology into the curriculum. The integration does not mean to use the computer as an assisting tool, but to emphasize

creating a new teaching environment through Network, a new teaching environment by effectively integrating web-based technology into College English teaching process, under the guidance of the Constructivism theory. This environment can support the teaching approach of creating situations, inspiring thoughts, obtaining information, sharing resources, autonomously exploring and cooperatively learning. A new teaching mode that features autonomy, expiration and cooperation should be advocated to give full play to students' initiative and creativity, thus fundamentally changing the traditional teacher-centered teaching structure. Students' role as the main body and the teachers' leading role are respected. See the following chart.
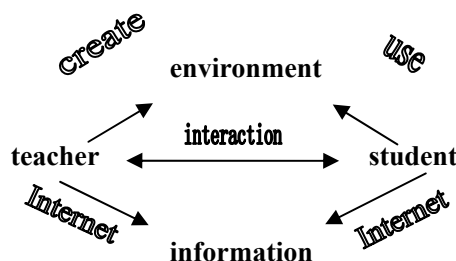

Figure   1

In this model, students as the center of study,   can bring their initiative into full play in the learning environment created by the teacher. They can construct the meanings of what is to be learned and solve problems. Students are the constructors and users while the teacher is the guide, organizer or facilitator. Knowledge conveyed by information is no longer what the teacher teaches, but the object for students to construct meanings actively. The learning environment should help students to construct. Cooperation takes place in the whole learning process. The teacher and students must communicate face to face to complete learning tasks, unlimited to time and space via Network-based technology.

6.1 Teachers' intermediary act

Teachers are no longer the sole source of language information. Instead, they are organizers and facilitators. Before class teachers should assign some tasks for students to fulfill, such as previewing the new words with the help of the given software, looking for relevant information in library or on Internet with purpose and writing their own ideas. In class, teachers should design some activities that encourage students to explore and be creators of language rather than passive recipients of it. Teachers, as facilitators, have to be able to respond to the needs that students have. That is, teachers can require students to learn online and organize them to discuss in class.

In this kind of Network teaching, teachers mainly guide or direct students to hold important things for effective autonomy learning. Teachers can also assign and confirm learning tasks online, for example, understanding relevant ground knowledge to some language points, preparing for discussion and so on. In addition, teachers can introduce resources online or some other reference.

In a word, a teacher's function transition is from housekeeper in traditional classroom to shepherd in the new teaching model.

6.2 Students' autonomy learning

In the Information Time, new knowledge is replacing old knowledge at a fast speed. It is not enough just to know what is presented. Students need to learn the way of searching for and exploring knowledge in their lifelong learning. Thus, autonomy learning is an important part of the integration between Network-based technology and College English teaching.

Since Henri Holec's work "Autonomy learning and Foreign Language Learning" [5] was published in 1981, autonomy in language learning has been a topic of widespread discussion in the west. Dickinson[6] considers autonomy as "both an attitude towards learning and a capacity for independent learning". He elaborates the attitude as responsibility that the learner is prepared to take for decision-making about his learning and capacity for critical reflection and decision-making in the learning process.

Chinese Scholar Su Ding-fang[7] concludes autonomy learning in three aspects: One, attitude. Learners voluntarily adopt a positive attitude towards their own learning. They are responsible for their study and are actively involved in their study. Two, ability. Learners should develop their ability and study strategies in order to complete their study tasks independently. Three, environment. Learners should be given enough opportunities to

train themselves and develop their ability to be responsible for their study.

English learning, supported by Internet, accords with the concept of autonomy learning. It consciously develops learners' autonomous ability, but also provides learners with excellent conditions and environment for autonomy learning. One of the widely acknowledged advantages of Network-based learning is its promotion of learner autonomy. The web allows the students freedom to conduct learning at their own pace and spend appropriate time in improving certain skills that they are weak at.

6.3 Students' cooperative learning

Cooperative spirit is essential in digital time. Accomplishing a curricula agenda cooperatively in a group can strengthen students' cooperative ability. In this student-centered teaching environment, cooperation between teachers and students and cooperation among students are preferable. The teaching structure after integration refuses the concept of regarding the teacher as an isolated decision maker. Teachers and students are part of the team. They explore, find and share knowledge information in cooperation, helping to set up their virtues, such as mutual respect, communication, and guarding against arrogance, on cooperation basis. They can also establish contact with other first or second speakers of English around the world through chat lines and pen pal links. This increases their intercultural awareness and sensitivities.

Setting up humanized cooperative environment and convenient intercommunication space environment as well as the resource environment through Network, students can easily obtain information and increase cooperation efficiency.

7 Conclusion

The present reform in China aims at solving the problems of students' poor ability of using English and lack of qualified English teachers. Network-based technology is developing, so is English teaching and learning. CAI or CAL is no longer effective in improving teaching quality because the computer is just regarded as an assisting tool. Information technology, especially Network technology makes it possible for students to perform self-regulated or cooperative learning, and set up a new mode for teaching and learning. In other words, Network technology has provided brand new means for teaching environment. Technology and pedagogical developments allow us to more fully integrate computer technology into future English teaching and learning process to create a perfect learning environment. This newest educational environment that delivers all our learning media, could be used creatively to remold the traditional unitary instructor-led approach in China and thus maximize students' experience and develop the learning efficiency and ease the constraints of lack of English teachers in present China.

From the point of view of constructivism, Network offers a chance for improving English teaching in modern society, as well as a chance for students to acquire English in a new environment. English teachers, however, meet some challenges in such new teaching models. Autonomous learning supported by Network technology is certainly not "teacher-less learning". As Sheerin (1997, cited in Benson & Voller 1997:63) [8] succinctly states, teachers "have a crucial role to play in launching learners into self-access and in helping them to stay afloat." Only when teachers have improved themselves not only in English proficiency and methodology but also in mastering information technology skills or only when Network technology is integrated into College English teaching, is the teaching reform successful.

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