Research on the Application of Online and Offline Blended Learning Mode to IT English Course

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Abstract: With the development of science and technology and the necessity of epidemic prevention and control, the online and offline blended learning mode has become increasingly indispensable in the field of modern education. In order to reconstruct output-based three-dimensional and layered teaching objectives and endeavor to build a teacher-student shared community, the IT English course deeply integrates the online teaching resources of SPOC and MOOC platforms into the offline course teaching procedures. The application of online and offline blended learning mode to IT English course is primarily for turning the monophonic way for teaching into a two-channel way for teacher-student interactions, highlighting the learner-centered concept, and emphasizing the combination between the large-scale instructions of teachers and the small-scale discussions of students.

Keywords: IT English; Online and offline blended learning mode; Integration; Learner-centered concept; Teacher-student shared community

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1. Introduction

On May 15, 2020, Wu Yan, the director of the Department of Higher Education of Ministry of Education of the People’s Republic of China, pointed out that as modern information technology is gradually integrated into the curriculum teaching procedures, the accuracy of teaching managements, the autonomy of student learning and the interaction between teachers and students are achieving impressive achievements in the modern education.

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Currently, universities and colleges are making efforts to combine the online teaching mode with the normal offline teaching mode due to the epidemic. In addition, the development of new learning environments and learning methods including individualized learning, mobile learning, and ubiquitous learning, are extremely promoted in higher education. In other words, teachers need to change their traditional teaching mindsets and master the modern teaching ideas. With the aid of modern educational information technology methods, instructors are required to implement the online and offline blended learning mode in their daily teaching procedures. What’s more, it is essential for teachers to pay equal attention to learning and teaching, to give full play to the leading role of instructors, to reflect the dominant status of students, and finally to emphasize the learner-centered concept.

On the basis of the deep integration of information technology and foreign language education, the foremost purpose of IT English course is to promote students’ language output ability. The information-based blended English teaching models such as flipped classroom teaching and PBL teaching highlight the dynamic interaction, effective segmentation, and diverse management modes. During the teaching process, the teaching team meticulously designed output-based classroom teaching activities which mainly reflect the students-centered, task-based, project-based, and cooperation-oriented teaching and learning models in order to drive students to get help from English to acquire knowledge, to apply English to take part in practices, and to participate in discussions and communications. Apart from those, instructors of IT English course are also careful to establish formative evaluation files and implement diversified formative evaluation methods.

In the latest edition of College English Curriculum Requirements published in 2020, it is proposed that instrumental characteristics of college English should be highlighted in ESP courses, which means that English application will be the focus. Only in this way, can students’ ability to use English for professional and academic exchanges be enhanced. It is better for ESP courses to combine the content of specific subjects with language teaching objectives. The designed teaching activities should focus on solving language problems encountered by students in the process of acquiring their disciplinary contents and cultivating their professional-related English proficiency.

The online and offline blended mode to IT English course has changed the traditional English learning and teaching model that emphasizes the language theory and neglects the language practice. What’s worse, the traditional English class is shortage of interactive, interesting, comprehensive, diverse and professional characteristics. However, the online and offline blended mode will realize the interdisciplinary integration and promote comprehensive-based and professional-
based skills. With the help of the mode, five practical abilities will be cultivated in IT English course. Specifically, the first ability is that students can understand their own professional English lectures; the second ability is that they are able to conduct conversations or discussions on professional topics fluently and accurately; the third ability is that they have the power to participate in discussions in international conferences frequently; the fourth ability is that students are able to read academic papers or literatures related to their major smoothly; the last ability is that they finally have the ability to write technical reports and papers in English to transmit their achievements in the field of their majors.

2. The Foundation of Online and Offline Blended Learning Mode to IT English Course

(1) Course resources construction based on Fanya SPOC platform

As the product of the ‘Internet + Education’ era, Fanya SPOC platform is to promote the development of new learning environments and learning methods for college English. The platform has been applied to realize the needs of individualized learning, mobile learning, ubiquitous learning and blended learning for college students, because it is necessary for education to put highlights on the ‘learning-centered’ and ‘learner-centered’ purposes at the current stage of Chinese higher education.

With the help of Fanya SPOC platform and its synchronized mobile terminal APP named Xuexitong, students and teachers can make use of the content editing and course mapping functions to upload pictures, videos, e-books, PPT, videos with interspersed text, quizzes, and many other resources. Therefore, a kind of authenticity, interactive, intelligent, and immersive learning situation will be constructed. Meanwhile, students’ 5A learning mode (Anytime, Anywhere, Anyone, Any device, any Anything) will be promoted in that such kind of 5 A learning mode is able to exert learners’ inner learning drive force and enhance their comprehensive language application.

According to the strategic deployment of Ten-Year Development Plan for Education Informatization (2011-2020), colleges and universities are encouraged to make use of the small-scale proprietary online course platform which suits their needs to develop online open courses construction and application. In addition, the construction and big data mining of online courses will be coordinated to promote the development of relevant disciplines and curriculum reforms. IT English course in our school has been established to cater to the above needs and requirements. In May 2020, 56 online open course videos have been basically completed for IT English course, with a total of about 1,040 minutes for those video clips. It is hoped
that the improvement of teaching quality, the cultivation of innovative and applied talents, and the promotion of our school’s popularity will be ultimately achieved because of the IT English course resources construction based on Fanya SPOC platform.

(2) Data mining of learning behaviors based on Fanya SPOC platform

All instructors of IT English course not only make use of Fanya SPOC platform to carry out course construction and implement the open course, it is more important for them to give play to awesome functions of learning behavior organizations, managements, and interactions. On the one hand, teachers usually will distribute learning and teaching resources on the platform in several modes such as the regular distribution mode and pass-through distribution mode. On the other hand, students have the power to unleash their learning initiatives and enthusiasms to conduct independent learning, free discussions, and interactive evaluations on the basis of the teaching progress.

All students’ learning behaviors are supervised by the big data function of Fanya SPOC platform. Learning behaviors usually consist of the usage frequency of the platform, submission situations of homework, the duration of micro-video playback, main ideas of discussions, and the number of answering questions during the course learning process. All of the learning data will enable to achieve implausible reforms which mean that the learning process of students is going to be transformed from the ‘non-quantitative’ pattern to the ‘quantitative’ pattern, the teaching organization of teachers is to be shifted from the ‘invisible’ mode to ‘visualized’ mode, and the course management will be changed from the ‘popularized’ form to the ‘individualized’ form. In general, the data radar chart that can refract students’ individualized learning behaviors will definitely be produced by Fanya SPOC platform.

(3) Supplementary resources of English for IT Professionals on the MOOC

The course named English for IT Professionals on the MOOC is a general and public foundation English course for students who major in computer science and technology, software engineering and other related majors. Students’ communication skills, reading and writing skills, and thinking and decision-making skills are mainly focused on in this course. On the basis of combing the history and culture of the IT industry, learners have a full understanding of the whole industry culture. Students are conscious to plan their career development through the survival skills training in IT industry corporate workplace. Finally, learners are expected to communicate more confidently and freely in international business activities of IT companies.

IT English course in our school mainly makes use of the online open course built on Fanya SPOC platform. Massive teaching resources, related videos, and
student learning behavior data are all stored and recorded on the platform. At the same time, *English for IT Professionals* course on the MOOC is merely applied as the extracurricular resources for students to expand their visions. Students can register and log in to learn whatever they want independently and autonomously with the aid of the MOOC platform. In other words, the main function of *English for IT Professionals* on the MOOC is to supplement shortcomings of *IT English* built on Fanya SPOC platform in our school.

3. The Application of Online and Offline Blended Learning Mode to *IT English* Course

(1) Application in the warming-up procedure

In terms of the warming-up procedure, instructors expect students to master the basic introduction of the theme and the concept of the topic. At the same time, they would like to inspire students to actively participate in the following contents of the unit. Before attending the class, students usually have to watch the theme-related video on Fanya SPOC platform and then express their personal opinions and arguments in English in the discussion area of the smart APP named Xuexitong. When it turns to the physical classroom environment, teachers select students who have published representative views to participate in the sharing and interaction activity according to students’ posts in the discussion area. Other students can also put forward their own critical views about the shared contents. Meanwhile, it is vital for teachers to comment on students’ perspectives and allocate specific grades for students who have experienced the class participation.

(2) Application in the reading comprehension procedure

With regard to the reading comprehension procedure, teachers hope that students can master the main language points, knowledge points, and difficult points of the content in the textbook. The sundry reading activities and language point exercises are used to lay the foundation for students to complete the comprehensive language application project. Before entering the classroom, video clips on the text explanation are usually provided for students to watch by using Fanya SPOC platform. Those video clips mainly include important and difficult language points, and professional terminology explanations discovered in passages. On the basis of the text analysis video made by instructors, students are required to master important and difficulty language points, to answer questions raised in the video in the written form, and to submit their answers to the smart terminal APP. When students attend the class, they should discuss assignments submitted on the platform with teammates and have a group report. At this time, mutual evaluation among groups and comments from teachers are going to play a vital role to investigate students’ specific mastery situations of their online learning.
(3) Application in the project practice procedure

When it comes to the project practice procedure, students are expected to improve the comprehensive language application capacity through the project-based language practice. Instructors release and upload the theme-related project directions and the sample videos form those excellent sophomores on Fanya SPOC platform. Project directions mainly consist of themes, questions, methods, requirements, labor divisions and detailed implementations. After class, student teams are guided to discover problems, inquire solutions, negotiate with teammates during the process of the project practice, and therefore the mindset of discovery learning and inquiry learning will be cultivated. In order to highlight the importance of comprehensive language application ability, team members are required to make the public speech In class and to evaluate the performance of other teams. In addition, teachers should comprehensively score the written reports and public speeches of teams, and then ultimately emphasize the importance of the combination between language learning and practical project application.

(4) Characteristics of applications in different procedures

The online and offline blended learning mode to IT English course puts the stress on the combination of language learning and practical activities. When students learn basic concepts of internet of things and functions of wearable devices, they can play the role of product managers to apply English in the live broadcast promotion for the newly released wearable devices. What’s more, they have the capacity to apply English in cyber security promotion after learning basic concepts of computer viruses and specific measures to protect the cyber security. The identity of the propagandist is required to conduct full English to record and broadcast how to protect personal computers and cyber information. For example, in the pre-class warming-up session of big data, instructors guide students to read an article about the application of big data on the ordering software of one Michelin restaurant. Students should assume that they are a regional manager of Meituan APP and then express their opinions about how to make use of big data to improve the service quality of Meituan APP. As for this practical activity, students speak out their perspectives enthusiastically. After combining textbook knowledge with their own Meituan experience, students are encouraged to put forward many novel ideas, which not only exercises their oral English, but also deepens their understanding of big data technology. It is said that creative oral output exercises have a positive meaning for consolidating language knowledge, training critical thinking capacity, improving learning challenges and enhancing students’ sense of achievements.

The online and offline blended learning mode to IT English course emphasizes specific and vivid examples discovered in our daily life. On the basis of the design of problem-based projects, students have to apply what they have learned and their learning enthusiasm is extremely improved. The teaching method of IT English
course is novel and unique in that students can not only grasp the basic *IT English* expression but also apply language skills in detailed practical activities. In addition, the SPOC platform and the intelligent terminal APP are applied to record the learning process of students and cultivate students’ independent and autonomous learning habits. In the whole course teaching process, students are in a proactive state, actively constructing knowledge and abilities in practices and scientifically building a learning capacity system through self-reflections and summarizations. The teaching contents of *IT English* course are connected with professional needs of students, because teachers desire to pay attention to the relationship between language expressions and workplace needs. Only in this way, can the combination between the humanistic nature of language and communicative nature of language be reflected in language teaching and learning.

4. The Inspirations of Online and Offline Blended Learning Mode to *IT English* Course

The online and offline blended learning mode to *IT English* course is to dig out all materials related to ‘Chinese Sentiments’, ‘International Perspective’, ‘Cultural Awareness’ and ‘Humanistic Accomplishment’ at any time. In addition, in order to cultivate students, ideological and political educations are integrated into the whole teaching process by the teaching instructors, and then finally morality and cultivation are silently achieved.

To be specific, during the teaching process of Internet of Things, students are firstly guided to learn the basic concepts of the unit. After that, they are required to promote the newly developed wearable devices in English as product managers. When students have grasped the main concepts of Computer Viruses and the specific measures to protect cyber security, they have to play the role of public welfare propagandists to record and broadcast how to protect personal computers and information security in English. Such kind of activity not only can be used to exercise students’ language propaganda skills, but also can be applied to reflect the innovation of propaganda strategies.

In terms of the warming-up session of Big Data, students are commanded to watch the video clip about the application of big data in Michelin restaurant. After watching the video clip prepared by the course team, students are asked to assume that if they were a regional manager of Meituan APP, they should do what to use big data on the platform to improve the service quality of Meituan APP. It is incredible that most students can speak out their ideas enthusiastically in the classroom and in the online discussion community. Combined their own experience of using Meituan APP with the textbook knowledge, it is possible for students to put forward many
novel ideas on how to mine the value of big data on Meituan APP, which not only improves their oral English, but also deepens the understanding of big data technology in our daily life.

During the teaching process of Artificial Intelligence and Social Media, team members pay much attention to gather and sort out the project information and literatures around pros & cons of two units. Apart from the basic information and literatures, students endeavor to select to set questionnaire items for the test group, and then scientifically obtain and analyze the quantitative data. When the quantitative data are collected, several representatives who have participated in the course will be interviewed and relational qualitative conclusions will be summarized. Ultimately, team members should cooperate to organize and write reports in English and meanwhile they have to make a public speech in English.

With the aid of those open questions based on the teaching content, students’ creative thinking vitality is greatly stimulated. In the process of discussion and speculation, logical and non-logical thinking skills are cultivated, novel and personalized ideas are generated, and creative thinking skills are strengthened. After participating in flexible and diverse practical activities, students gradually enhance their practical problems solving capacity including learning ability, thinking ability, operation ability, interpersonal communication ability, etc., which greatly meets the needs of innovative practice ability training. Projects and tasks are applied in IT English course to introduce new knowledge and to stimulate students’ motivation to learn. Students are able to put forward some challengeable questions for teachers. Meanwhile, they have the power to experience and practice in the real environment in order to solve problems they have discovered. The critical and innovative thinking of students is transparently caught in the team visualized presentations of relative projects.

5. Conclusions

With the help of Fanya SPOC platform and its smart APP, the online and offline blended learning mode to IT English course is to construct an authentic, interactive, intelligent, and immersive learning environment for students, and finally the mode is used to realize 5A learning activities for students. Instructors conduct systematic and scientific evaluations for all students’ learning behaviors data, so that they are expected to find out students’ interest and difficulty in learning and timely adjust the teaching contents and methods to meet individual needs of students.

With the help of Fanya SPOC platform and its smart APP, the online and offline blended learning mode to IT English course is to provide online self-learning
videos and expansion resources for students and is to achieve large-scale teaching activities for teachers. In offline classrooms, teachers are responsible for carefully designing output-based activities and actively organizing students to conduct small-scale discussions. Only in this way, can students’ awareness for the learning main body be constructed. What’s more, cooperative learning and inquiry-based learning models are frequently applied to build a shared community between teachers and students.

Through the online and offline blended learning mode, the monophonic way for teaching is going to be transformed into a two-channel way for teacher-student interactions in IT English course. Students’ production is the focus during the process of the two-channel way interaction. Their ability to apply English to acquire knowledge and to use English to do professional works has been extremely enhanced. The capacity to participate in academic discussions and daily communications has been greatly strengthened. During the teaching and learning process of the course, formative evaluation files are created and diversified formative assessment methods are employed, which gives full play to the role of students as the main body of learning, and also successfully achieves a teaching and learning shared community for instructors and students.

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