An Innovative Scheme of Hybrid Software Technology Teaching Mode Based on Micro-course

Lihua Zhu1,*

1School Of Software and Big Data, Changzhou College of Information Technology, Changzhou 213164, China

*Corresponding author e-mail: 86061260@ccit.js.cn

Abstract. Blended teaching is a teaching mode that combines online digital online learning with offline face-to-face classroom teaching, and combines the advantages of online learning with the advantages of traditional teaching. Only by combining the two, so that they can complement each other, can we get the best learning effect. Teachers-led intense discussion among students is the key to the successful implementation of blended teaching. Blended teaching reform can greatly stimulate students' interest in learning and improve teaching quality. Mixed teaching can not only fully reflect the students as the main body of the learning process, give full play to their autonomy, enthusiasm and creativity, but also embody the teacher as the leading role in the teaching process, playing its role of guidance, inspiration and control. In this paper, combined with the characteristics of College English teaching, through the analysis of micro class based blended teaching and College English teaching methods, to research and create the most suitable for the current college English blended teaching mode.

Keywords: Mixed Teaching, College English, Digital

1. Introduction

Blended learning is a kind of learning idea put forward by people who reflect on the pure technical environment after the network learning has entered a low tide. With the rapid development of science and technology, the educational reform is accelerating, and the traditional teaching mode is increasingly difficult to adapt to the needs of learning a large amount of knowledge quickly, while the mixed teaching mode will be the key trend to promote the application of technology in higher education in the future [1]. Blended teaching mode can well reflect students' dominant position, not only arouse students' enthusiasm and initiative in learning, but also help students master theoretical knowledge and cultivate practical operation ability [2]. This new type of mixed teaching can not only
give full play to the advantages of mixed teaching, but also change the single learning style, stimulate students' enthusiasm and initiative, and realize the combination of formal learning and informal learning [3]. It combines systematic learning with fragmented learning, autonomous learning with collaborative learning, theoretical knowledge learning with practical ability training, in order to provide new ideas for the education and teaching reform in our school [4]. At present, vocational colleges mostly adopt a single classroom teaching mode with teachers as the main body, which is difficult to meet the teaching requirements of secondary vocational students with insufficient basic knowledge and large individual differences, and the teaching effect is not ideal, which directly affects students' employability and quality. At present, as the Internet age, college students' curiosity about new technologies and new things can be fully utilized, and the full combination of traditional software technology classes and micro-courses will greatly help to improve the quality of software technology teaching [5].

The connotation of blended learning is richer, which can be any mixture of teaching elements that can improve teaching effect and optimize teaching objectives, including the mixture of various teaching concepts and theories, various teaching media, various teaching resources and various evaluation methods [6]. Blended teaching can not only fully reflect the students as the main body of the learning process, and give play to their autonomy, enthusiasm and creativity, but also reflect the teachers as the leader of the teaching process, and give play to their role of guidance, inspiration and control [7]. Blended teaching mode combines the advantages of traditional teaching and network teaching and has become an important direction of modern teaching development [8]. This paper probes into the mixed teaching mode based on micro-courses from the aspects of mixed teaching design, network resource development, mixed teaching practice and teaching effect analysis. Blended teaching focuses on cultivating students' logical thinking ability, critical thinking ability, problem solving ability, creative and innovative ability, communication and coordination ability, cooperation ability, etc. Teachers-led intense discussion among students is the key to the successful implementation of blended teaching [9]. Blended teaching reform can greatly stimulate students' interest in learning and improve teaching quality.

2. Design of mixed teaching mode based on micro class

The mixed teaching mode requires students to mix online learning with offline learning, autonomous learning with collaborative learning, fragmented learning with concentrated learning, virtual learning with hands-on practice, and self-study with teacher guidance. Micro-class is a high-efficiency micro-class with knowledge points as the unit and a duration of 8-10 minutes. It is intuitive, short and pithy, which is very suitable for vocational students' generally short attention time. It is very helpful to stimulate students' interest in learning and improve their autonomous learning ability. In the information age, this kind of teaching video can no longer meet the needs of students, so it is urgent to improve this teaching mode. The mixed teaching mode requires teachers to reconstruct the traditional classroom teaching structure, expand and extend the time and space of traditional teaching, give full play to the advantages of online teaching and offline teaching, and carry out organic mixing to realize teaching. In the past, English as an exam-oriented course in quality education, teachers didn't regard it as a humanities course, and they were more inclined to how to achieve good results in the final test, and paid more attention to the explanation and application of grammar. Students trained by this concept often achieved excellent results in exams [10]. Combine online learning test with offline
learning test, record of learning process with general evaluation of learning results, theoretical learning test with experimental application assessment, system platform statistics with face-to-face examination of instructors.

In traditional English classes, most of the time, teachers explain grammar words in the form of chalk writing on the blackboard. At the same time, due to the large number of teachers, it is difficult to supervise in time, and the limited classroom time can not carry out questions and discussions, so there is a lack of communication between teachers and students, and the classroom atmosphere is low. Under normal circumstances, online course teaching is completed by students themselves. How to monitor and manage students' online learning, and whether students can complete online course teaching efficiently are issues worth considering. By creating classroom situations and designing a series of classroom teaching activities, offline teachers help students understand and master knowledge deeply, effectively stimulate students' enthusiasm and creativity, and enhance students' awareness and initiative in learning. The design of teaching mode, the selection of teaching resources and the arrangement of teaching activities all embody the principle of student-centered teaching. The whole teaching design and implementation is mainly guided by constructivist learning theory and carried out under the dual-main teaching mode, giving full play to the leading role of students and teachers, realizing knowledge internalization for many times, and guiding and helping students to complete the construction of knowledge meaning independently.

3. Mixed teaching practice based on micro class

3.1. Construction of curriculum knowledge point system

Blended teaching mode is a new teaching form based on online learning. It is a teaching process that integrates classroom teaching and online learning and then combines the advantages of the two forms. As a video-based learning mode, micro-lesson is short in video time, and is mostly a specific explanation of a certain knowledge point. Its pertinence, small capacity and prominent theme are also especially suitable for college students who rely on mobile devices and the Internet. Higher vocational students generally have poor knowledge base, weak interest in learning and weak autonomous learning ability, but students with high scores have strong curiosity and quick thinking. Students have the knowledge base of leading courses such as "Basic Principles of Computer" and "Basic Knowledge of Computer Network", but their English level is poor, and they may have resistance or difficulties in the initial stage of learning network equipment configuration [11]. Blended teaching is a recombination after optimizing many factors such as teaching resources and environment, teachers and students, which weakens teachers' dominant position in class and increases students' weight in teaching. At the same time, the complete variety of micro-class videos is also beneficial to students' independent learning and promotes individualized development. In the process of online learning, because of the fragmentation of learning content and various forms of learning resources, students need motivation to complete learning successfully. This requires teachers not only to provide resources and information related to learning tasks, but also to stimulate students' sense of self-efficacy and accomplishment in completing learning tasks. By giving students timely and effective affirmation and encouragement in the learning process, students' sense of gain and self-confidence can be enhanced, and their learning motivation can be stimulated and maintained.
The "micro-curriculum" training mode is suitable for the new educational reform. Secondly, focusing on group discussion in the course can not only promote the interaction among students, but also make them realize the importance of independent speech and teamwork. Table 1 shows the investigation on the changes of students' learning ability after the "micro-curriculum" mode education.

Table 1. Survey of changes in student learning ability

| Changes in learning ability | Learning ability has improved | Learning ability has improved greatly | Learning ability remains unchanged |
|-----------------------------|-------------------------------|-------------------------------------|----------------------------------|
| Number of people            | 204                           | 52                                  | 36                               |
| Proportion (%)              | 85.0                          | 21.7                                | 15.0                             |

The design of teaching mode should emphasize the coherence of teaching content, and highlight the key points and difficulties of teaching, which can not only meet students' current learning needs, but also have positive significance for students' future learning and enhance their learning motivation. The development of blended teaching mode is conducive to teachers' understanding of each student's learning situation and progress, and makes them more targeted in teaching. At the same time, this model is also conducive to teaching feedback and assessment, both teachers and students can understand the learning situation or expected results through assessment, which is convenient for the continuous optimization of teaching in the future. With the application of Internet technology in the education industry, the teaching mode of micro-lesson has emerged as the times require. The core content of micro-lesson is classroom teaching video and some auxiliary teaching means such as instructional design, teaching reflection and classroom evaluation, but the seemingly fragmented characteristics give students more opportunities to learn [12]. Only by studying students' basic knowledge level, learning ability and practical needs seriously can teachers choose the correct teaching mode, optimize the teaching process, achieve teaching objectives and improve teaching efficiency. Therefore, the hybrid teaching mode based on micro-courses with short time, small capacity and fine content is more in line with the needs of students' own development.

3.2. Choose the network learning platform

Before class, students take advantage of piecemeal time to learn the micro-lessons designated by teachers online, and record the problems encountered during the learning process. At the same time, the corresponding questions and clinical cases related to the content of the micro-course are designed to drive students to acquire knowledge and record scores according to whether the answers are correct or not. Teachers use fragmented time to answer questions in time, and further clarify the key points and difficulties of classroom teaching according to students' pre-class learning situation, so as to choose classroom teaching strategies and design classroom training programs. Teachers guide students to think positively and divergent, comment and correct students' speeches, and participate in discussions with students. Teachers' targeted guidance also helps students to master knowledge firmly. Combining with teachers' targeted explanations, students consolidate their cognition by actively participating, actively thinking, questioning and answering questions, further deepen their understanding of learning content, complete the internalization of knowledge, and cultivate their own critical thinking.
In the summary of 240 surveys, 85% of students think that "micro-courses" have improved their learning skills, 21.7% of students have improved their learning skills, and 15% of students think that they have retained their learning skills. It can be seen that "micro-curriculum" can not only improve students' learning ability, but also cultivate students' interpersonal and communication skills, which can play a very good role in improving team awareness. Table 2 shows the students' scores of micro-course teaching mode.

Table 2. Students' evaluation of the micro-course teaching mode

| evaluate       | Very good | Good | No difference | Traditional classroom is better |
|----------------|-----------|------|---------------|--------------------------------|
| Number of people | 76        | 102  | 38            | 24                             |
| Proportion (%)  | 31.7      | 42.5 | 15.8          | 10.0                           |

First of all, blended teaching should be integrated and analyzed according to the current learning environment, teaching participants and teaching objectives, so as to clarify the expected teaching effect. Teachers of software technology make full preparations, make a good teaching plan and improve the quality of output content. The mixed teaching mode based on micro-lessons has changed students' learning environment, learning strategies, learning methods, learning attitudes and learning effects. It emphasizes the organic combination of online learning and offline learning, and strengthens students' awareness of autonomous learning. Strengthening the training of teachers in colleges and universities, teachers' understanding of Internet technology and information-based teaching is the key to the successful development of mixed teaching, so comprehensively improving teachers' information-based teaching level is the basis for further promoting mixed teaching. At present, the development of micro-course-based hybrid teaching in software technology teaching is still in the development stage, and has not yet formed a mature theory and system, and there is not much practical experience to learn from. There are still many problems in the development of various aspects, so it is very important to give help and support from schools and even society [13]. After the introduction of blended teaching, teachers can view each student's learning records and homework completion in micro-classes, which eliminates the disadvantages of teachers' one-to-many teaching in traditional classrooms. Meanwhile, students can also give feedback and evaluation on the teaching situation, which is also convenient for teachers to further improve their own teaching.

In the mixed teaching under the concept of micro-lesson, students have already completed the preliminary understanding of knowledge through online micro-lesson learning before class. Therefore, in the online classroom teaching, the flip classroom mode with students as the main body and teachers as instructors and tutors can be adopted. Students' consolidated learning and knowledge transfer are mainly realized by finishing the homework assigned by teachers. And submit the homework to the homework module of the cloud classroom. By correcting students' homework after class, teachers can have a comprehensive understanding of students' overall mastery of teaching content and give timely feedback to students. Teachers improve the teaching plan according to students' micro-lesson learning and homework completion, classroom performance and test results, and students reflect and consolidate and improve independently according to the completion of learning tasks. After the completion of teaching, teachers and students should summarize and reflect in time, adjust and improve the teaching plan, and then start the next stage of teaching. Teachers should fully
communicate with students before class, further understand students' learning needs and personality characteristics, and make necessary modifications and updates to teaching resources.

4. Conclusion

As a new teaching method combining online and offline, the blended teaching mode subverts the teacher-centered concept in traditional teaching and has become an important direction of modern teaching reform under the Internet environment. The mixed teaching mode under the micro-lesson concept effectively integrates online online course teaching with offline classroom teaching, and realizes the optimization of teaching effect. To implement blended teaching, the construction and development of network resources is the key issue to effectively implement blended teaching mode. Through the analysis of traditional classroom teaching and blended teaching, the necessity of blended teaching in current software technology classroom is clarified, and the achievements brought by the development of blended teaching are affirmed. In the future implementation process, teachers should clarify their position of supervision and guidance, focus on cultivating students' awareness and enthusiasm for learning, integrate traditional resources and network resources of software technology teaching, and have both advantages, so that both students and teachers can get better growth. In the future, theoretical exploration and teaching practice should be carried out for the online and offline communities of practice under the blended teaching mode, so as to explore the best scheme to ensure the effective occurrence of learning and promote the pace of blended teaching reform in the information age.

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