Teaching Reform and Practice Exploration of Basic Computer Courses under the Background of Internet

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Abstract: This paper first introduces the online and offline mixed teaching mode, then introduces the theoretical basis of constructing the online and offline mixed teaching mode, and then expounds the specific implementation process of the online and offline mixed teaching mode, and finally expounds the implementation effect of the online and offline mixed teaching mode.

Keywords: Online and offline mixed teaching; Theoretical basis; Implementation process

At present, in the course of teaching basic computer courses, due to the limited class time, the phenomenon of "full teacher" often appears in the classroom, the teacher is often in the "leading" position, the students are passive learning, the students' learning interest is not high, the students' operational practice ability is poor, and the cultivation of students' computational thinking ability is often ignored. However, with the popularization and application of the Internet and the rapid development of modern education and teaching methods, the mixed teaching mode of online and offline came into being. Therefore, under the background of the Internet, how to better integrate the advantages of online network teaching and offline traditional teaching in the course of computer foundation teaching, and improve the teaching effect and education quality of the course is an important research topic. In view of this, this paper puts forward a new type of online and offline mixed teaching mode.

1. Overview of Online and Offline Mixed Teaching Mode

Online and offline hybrid teaching mode is a new teaching mode that combines the advantages of offline traditional "face to face" teaching (C-Learning) and online teaching (E-Learning) by means of the Internet, network teaching platform and mobile intelligent terminal, etc., to form a new teaching mode that integrates online teaching and offline teaching. The advantages of online and offline mixed teaching mode are as follows:

(1) More abundant learning resources

Teaching resources are no longer limited to textbooks, but can be courseware, videos, tests and so on. Teachers can place rich learning resources on the network teaching platform in advance, and students can carry out independent and personalized learning anytime and anywhere. Students' learning resources are more abundant, and learners can get better learning experience.

(2) Teaching and learning are more personalized

Through the network teaching platform, students can choose their own learning resources according to their personal learning situation; Teachers can also use the network teaching platform anytime and anywhere to provide

students with questions and personalized guidance.

(3) Students' learning time and learning content are more flexible

In the course teaching process, the combination of online and offline teaching mode is adopted, and students' learning is no longer limited by learning time and place. By using terminal devices such as computers, tablets and mobile phones, students can make use of fragmented time for ubiquitous learning. Students can flexibly arrange their study time and content according to their personal situation.

(4) More conducive to teacher-student interaction, student interaction

This teaching mode completely subverts the traditional face-to-face teaching mode. It puts the learning of simple knowledge after class, and internalizes the knowledge of important and difficult points in the traditional face-to-face classroom. It fully arouses students' learning enthusiasm and stimulates their learning interest, so as to better cultivate students' independent learning ability, computational thinking ability, innovation ability and so on. Then improve the quality of curriculum education and teaching effect.

2. Build the Theoretical Basis of Online and Offline Mixed Teaching Mode

(1) Constructivism theory

The constructivism theory was first put forward by Piaget in Switzerland. Later, on the basis of Piaget's theory, Bruner and other relevant scholars carried out a series of in-depth studies on it, and then continuously improved and perfected the constructivism theory. Constructivism theory holds that knowledge acquired by learners is not acquired by teachers, but by means of meaning construction with the help of others and the use of necessary learning materials under certain circumstances. Constructivism theory emphasizes the "student" as the center, emphasizing the learner's active exploration, active discovery and active construction of knowledge.

Constructivist theory emphasizes the process by which students construct their own knowledge, rather than being taught directly by teachers. It points out that in the teaching process, students become the main body of the classroom, teachers are guides and helpers, teachers should flexibly use a variety of teaching methods and modern education and teaching methods to fully mobilize students' learning enthusiasm, let students take the initiative to learn, take the initiative to create, and finally let students from "I want to learn" to "I want to learn", so as to achieve a reasonable structure of knowledge.

(2) Ubiquitous learning theory

U-Learning, or 4A (Anyone, Anytime, Anywhere, Anydevice) learning, as the name suggests, refers to learning all the time and everywhere. Ubiquitous learning theory is a new system of learning theory, that anyone can access any information they need, anywhere, anytime.

In the "ubiquitous learning" environment, students can make use of their own fragmented time and use mobile terminal devices (such as mobile phones, laptops, tablets, etc.) to learn and communicate with network teaching resources anytime and anywhere. "Every-is learning theory" changes the existing ways of teachers' teaching and students' learning, so that teachers' "teaching" and students' "learning" become everywhere.

3. The Implementation Process of Online and Offline Mixed Teaching Mode

During the implementation of the online, online and offline hybrid teaching mode, constructivism theory and ubiquitous learning theory are taken as the basic theories, and the teaching concept of "student-oriented and teacher-oriented" is always adhered to. Guided by the training of students' computational thinking ability, flipped

classroom, mobile smartphone platforms (such as QQ, wechat, Learning Pass, mobile phone compiler) and other teaching methods are introduced. And flexible use of a variety of teaching methods, aimed at improving the quality of education and teaching effect of the course. The implementation process of the online and offline mixed teaching mode is as follows:

(1) Before class, teachers release learning resources and students learn independently

Before class, the teacher uploads the prepared learning resources (such as micro-videos, test questions, courseware, etc.) to the online teaching platform (such as learning pass) one week in advance, and releases the pre-class task. Students can arrange their own learning time and content according to their personal situation. During the online study, students can use QQ, wechat, learning and other network teaching platforms to find teachers to answer questions and solve doubts anytime and anywhere; Teachers can also check students' preview progress and preview situation through the network teaching platform; Students and students also use the network teaching platform to communicate and discuss.

(2) In class, teachers give face-to-face lectures

In class, teachers can make full use of the advantages of offline classes to communicate and interact with students face to face. According to the students' pre-class preview situation, the teacher explained the common problems in the preview process and the important and difficult knowledge of this class.

In the offline teaching process, teachers always adhere to the teaching concept of "teacher-led, student-main", introduce the teaching concept of "flipped classroom", introduce the mobile smartphone platform "mobile compiler", flexibly use a variety of teaching methods (such as question guidance method, discussion method, case teaching method, etc.). And make full use of the online teaching platform (such as learning) shake, in-class test and other functions, fully mobilize students' thirst for knowledge and learning enthusiasm, let students take the initiative to learn, explore, let students from "I want to learn" to "I want to learn", and gradually guide students to complete the internalization of knowledge and learning, so as to better improve the classroom teaching effect.

In order to better cultivate students' computational thinking ability, in the offline teaching process, teachers should avoid "filling the classroom", reserve more thinking and discussion time for students as much as possible, and use computational thinking methods to guide students to analyze and discuss in order to find ways to solve problems, so as to better cultivate students' computational thinking ability.

In addition, in the process of face-to-face teaching, in order to better mobilize students' enthusiasm for learning, teachers can also adopt the teaching method of "talking while practicing", so that students can use computers or mobile phone compilers to hands-on practice, and strive to pull students who are addicted to mobile phones back to the classroom, so as to better enhance students' classroom participation and classroom teaching effect. Practice has proved that the introduction of "mobile phone compiler" can not only solve the phenomenon of less time for students to practice on the computer in the past, but also improve students' operational practice ability and students' class participation, so as to better improve the teaching effect of the course.

(3) After class, teachers publish review resources online, and students review independently online

In order to better enable students to consolidate what they have learned, teachers release review resources (review questions, tests, etc.) through the online teaching platform after class, and students can use fragmented time to independently review online and complete the review task. During the review period, students can also find teachers through the network teaching platform to answer questions or discuss with students.

In addition, students' computer base and learning ability are uneven. Therefore, after class, teachers can also release expansion resources on the network teaching platform, and students can independently choose to expand resources for learning according to their personal circumstances, thus solving the phenomenon that some students

"don't have enough to eat" and some students "can't eat", and thus better realize hierarchical teaching.

4. The Implementation Effect of Online and Offline Mixed Teaching Mode

Through interviews, questionnaires, score comparison, and SPSS data analysis, the online and offline mixed teaching mode can not only arouse students' interest in learning, but also improve students' test scores and teachers' teaching satisfaction. It can also improve students' independent learning ability, team cooperation ability, computational thinking ability, programming ability and other comprehensive abilities, so as to improve students' computer literacy, so that students can better adapt to the development and needs of the information age.

Practice has proved that the offline and online hybrid teaching mode studied in this paper combines the advantages of online teaching and traditional offline teaching, changes the learning mode of students and the teaching mode of teachers, completely subverts the traditional teaching mode, and has strong research and practical significance.

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