

Application of Flipping Classroom Teaching Mode in Computer Culture Basic Teaching

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Abstract: With the advent of the Internet information age, the demand for high-quality, comprehensive computer professionals has gradually increased, which puts higher demands on the teaching of computer science in colleges and universities. However, at present, the computer majors in colleges and universities generally have problems such as unbalanced teaching resources, single teaching mode, and uneven student level, which restricts the improvement of the basic quality of computer culture. To this end, this paper introduces the flipping classroom teaching mode, based on the analysis of the advantages of the new teaching mode, combined with the current situation of computer culture basic teaching in colleges and universities, puts forward the specific application strategy of the flipping classroom teaching mode in the computer culture basic teaching, in order to promote the computer professional teaching Mode reform to improve the overall teaching effect.

1. Research Background

1.1 Literature review

At present, domestic scholars have issued a scale for the application of flipping classrooms in teaching. Yang Wei discussed the teaching method of “Computer Culture Foundation” under the classroom teaching mode and pointed out the improvement suggestions (Yang, 2015). On the basis of analyzing the connotation and characteristics of the flipping classroom teaching mode, Yang Zhenwen mainly discusses the problems existing in the application of flipping classrooms in junior high school mathematics teaching (Yang, 2016). I think that flipping classroom as a new teaching method that subverts traditional teaching mode faces certain challenges in the process of integration with traditional teaching. Therefore, it focuses on the application strategy of flipping classroom teaching mode in chemistry teaching (Yan, 2017). . In the fusion of classroom teaching mode and computer culture basic teaching, a certain scale of literature has been formed. Liu Yufeng pointed out that flipping the classroom mode can not only mobilize the enthusiasm and initiative of students, but also meet the learning needs of students at different levels, and has achieved remarkable results in large European and American countries. Therefore, it focuses on the use of the flipped classroom model in the “Computer Culture Foundation” class (Liu, 2015). In order to promote the teaching effect of computer public courses, Liu Hui gives specific implementation steps of flipping classrooms in combination with teaching cases, and expounds the main tasks of students and teachers in the three stages of pre-course, in-class and after-class classroom design (Liu , 2016). Wang Wenxu analyzed the main problems facing the current “Computer Culture Foundation” teaching, and proposed to apply the flip classroom teaching mode in the course. Then through practical teaching, the positive effect of flipping classroom teaching mode on cultivating learners' self-design ability and self-learning consciousness is verified (Wang, 2017). Liu Jie and Su Huizhe found that the flipping classroom with micro-course as the fulcrum has become the research hotspot of the current basic education teaching reform. Therefore, based on the analysis of the current teaching situation of the university, the necessity of the curriculum reform of “Computer Culture Foundation” is put forward. Finally, the introductory classroom teaching process based on micro-classes is introduced in detail through a specific case (Liu and Su, 2017).

1.2 Purposes of research

In the Internet age, education innovation practice is more abundant, and various teaching resources have been highly shared, which has greatly improved the quality of teaching and fairer education. However, at present, in the basic education of computer culture, there are still many teaching problems in colleges and universities, such as a single teaching model, uneven educational resources, and uneven student levels. This has greatly increased the difficulty of teaching computer science foundation courses in colleges and universities, which is not conducive to the improvement of computer professional teaching quality (Du, 2018). Therefore, combined with the development trend of teaching informatization, the reform of the basic course of computer culture is a key issue that universities need to solve urgently. Instead of “teaching self-study teaching videos before class, answering questions and discussion in class”, instead of “introduction to classroom teaching, after-school homework”, the inverted classroom teaching mode can effectively cultivate students' comprehensive quality and innovative ability, and has been widely educated in recent years. attention. In the teaching reform of computer culture foundation course, the introduction of the flip classroom teaching mode has important practical significance for improving the overall quality of computer major students.

2. Analysis of The Advantages of Flipping Classroom Teaching Mode

Flipping the classroom is a new type of teaching mode. It can be seen as a “reverse flip” of the traditional classroom teaching mode, from “first teach after learning” to “learning after learning”, which reverses the time and space structure of teaching. That is, before the class, students learn the course content online, complete targeted exercises, teachers plan problems, record videos and provide learning resources to achieve knowledge transfer; in the classroom, teachers and students face-to-face communication, solve problems and complete homework, internalization Learning knowledge (Bai, 2019). This kind of teaching mode has obvious advantages, so it is recognized and recognized by the majority of teachers and students.

First, it is conducive to improving students' learning efficiency and learning outcomes. In the flipping classroom, students can conduct independent learning according to their own mastery and needs of the course. Before class, learn the logical learning resources that teachers prepare in advance, and initially grasp or understand the course content, and answer the primary questions involved in the course learning content. For problems and doubts encountered in self-study, students can discuss in the classroom activities or ask the teacher. At the end of the course, the teacher will evaluate and summarize the learning outcomes of the students' learning outcomes and class discussion level, so as to further affirm or urge students to learn. This will greatly improve students' interest in learning and initiative, thus improving learning efficiency and learning outcomes.

Second, it is conducive to teaching and learning and improving the quality of teaching. In the flipping classroom teaching mode, teachers need to prepare the course in advance, including recording the teaching videos with good rhythm, clear logic, and prominent points, planning the specific questions of each course, and providing students with comprehensive learning materials. In the course of scald burns, teachers also need to make more professional and in-depth guidance on the questions raised by students, and evaluate students at different levels. This new type of teaching model puts forward higher requirements for the teaching skills of traditional teachers, which is conducive to the teaching and learning of teachers and enhance the overall ability of teachers. Moreover, in this teaching mode, students need to learn the course content in advance and communicate and interact with teachers and classmates in the classroom. This lengthens the time for students to internalize knowledge and helps to improve the quality of teaching.

Third, it is conducive to promoting the informationization of teaching and promoting the individualization of students. Under the flipping classroom teaching mode, students' learning reference materials are rich, including video, network materials and others, instead of simple and intuitive learning content in traditional teaching, which can provide students with personalized guidance. Students can independently select the materials that suit them according to their own

situation and conduct level-by-level learning. Moreover, the interaction, discussion and Q&A of students and teachers have also shifted from offline classrooms to online, breaking through the constraints of time, place, learning progress and learning methods, which is conducive to improving the modern information technology capabilities of teachers and students and promoting teaching. Informatization. In addition, more independent choices can not only improve students' initiative, but also help teachers to teach students according to their students' circumstances, arrange different learning tasks, and realize individualized and hierarchical learning.

3. Current Situation and Problems of Basic Teaching of Computer Culture

3.1 Teaching mode is relatively simple

At this stage, in the process of computer-based basic teaching in colleges and universities, many teachers still only teach through the combination of classroom theory professors and experimental guidance. Moreover, theoretical lectures usually take the form of textbooks and PPT presentations. The experimental content is relatively fixed and single, and the guidance is more stylized and lacks interaction. This simple mechanical cramming teaching mode, teaching methods and means are very traditional. Under this teaching mode, students are passive learning, learning enthusiasm is difficult to be stimulated, and the actual computer operation ability is difficult to be greatly improved, so the teaching effect of the course is also poor.

3.2 Unbalanced teaching resources in colleges and universities

Due to the limitations of regional and teaching quality, the teaching focus and content of many colleges and universities are not the same, which will result in a certain degree of unbalanced teaching resources. For example, some institutions pay attention to electronic information technology, so education resources are more biased towards computer science, but there are still many colleges that focus on chemical, physics, literature, etc., so teaching resources will be more biased towards these professions. Moreover, in colleges and universities, there are also differences in teacher faculty. This difference is reflected in teaching experience, teaching style and teaching methods. Teachers with rich experience and teaching styles suitable for students are more likely to motivate students' enthusiasm and initiative. Teachers' differences will cause students to understand and master the content of computer culture basic courses, which will affect the teaching effect.

3.3 Student computer level is uneven

The students currently entering colleges and universities are all 90 years after they have contacted or studied computers in primary or secondary schools. It can be said that the current computer majors in colleges and universities have a certain computer foundation. However, due to regional differences and differences in family conditions, the computer skills of these students are also uneven. Students who have been exposed to computers and the Internet from a young age can master basic computer theory knowledge and basic computer operations. However, students who are rarely exposed to computers may not understand the basic theoretical knowledge such as the composition of the computer, and it is difficult to grasp in terms of operation. The difference in student computer level also increases the difficulty of teaching basic computer culture. The traditional single teaching method makes the basic students unwilling to learn, and the weak students can't learn well.

4. Application Strategy of Flipping Classroom in Computer Culture Basic Teaching

4.1 Pre-class online preparation

The flipping classroom teaching mode emphasizes the pre-study for students. Therefore, the computer culture basic course teachers should prepare the lessons and materials in advance in the course syllabus, the knowledge points that students need to learn and master. The course professor will be recorded as a teaching video and uploaded to the learning platform to allow students to

watch and learn in advance. At the same time, the teachers should also classify and package the organized teaching materials and questions, upload them to the learning platform, and let the students choose their own learning in stages. Teachers can also arrange homework on the online learning platform to follow up on the progress of the students. In addition, on the learning platform, students first understand the learning content through the courseware, and then carry out class discussion and problem exchange with questions. They can also use the virtual community software such as QQ group and WeChat group to ask questions in time. For the common problems raised by the students, the teacher can record the answers as a small video and send it to the learning platform for all students to view. In this way, students' enthusiasm for independent learning will be improved, and the quality of computer culture basic courses will be improved.

4.2 Discussion of problems in class

In order to make the flip classroom teaching mode well applied in the basic teaching of computer culture, it is necessary to highlight the main position of students in the course study. That is to say, in the basic teaching of computer culture, students should be the protagonists of the classroom, so that students can learn, discuss, exchange and communicate with others during most of the classroom. The teacher only needs to play the role of the passer of the course content, the problem solver, and the role of the leader of the direction. Specifically, in the computer culture basic classroom, students have already learned the main learning content of the course through the preview, but at the same time there are certain problems and doubts, which need to be discussed and resolved in the classroom. Teachers also master the learning situation of students through the online learning platform, but it is not comprehensive and specific. Therefore, students need to discuss common and general problems in the classroom, and the teachers will give solutions to the problems and detailed explanations of the students' difficult and individual problems, so as to strengthen the students' mastery of knowledge.

4.3 After-school learning evaluation

For the teaching of basic theory of computer culture, after the class of the flipping classroom, the teacher needs to test and evaluate the students' mastery of the content they have learned. Specifically, the scores of the evaluation of teaching evaluation can be divided into two parts, one is the preparation of the students under the class and the completion of the homework, and the second is the classroom performance of the students. Among them, the performances include pre-class test, group study report, homework completion, etc. Class performance includes answering questions and class presentations. These two parts affect each other to a certain extent. Students will find problems before class, and then actively discuss and communicate in the classroom. When they get the answers to the questions, they will naturally be willing to do the after-school questions. In contrast, students' academic performance will not be high.

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