

# Research on the development of online teaching of computer courses in Colleges and Universities

Chengzhi Guo

Qinghai Minzu University, Xining Qinghai, 810007

**Abstract:** there are many problems in the application of Hybrid Teaching of computer courses in Colleges and universities. For example, the level of teachers is not enough, online teaching completely copies the traditional offline mode, and online teaching is disconnected from offline teaching. Aiming at these problems, this paper summarizes the teaching reform and online teaching of computer courses in Colleges and universities, and analyzes the advantages of online teaching of computer courses in Colleges and universities, According to the existing problems, the corresponding solutions are proposed, which will provide some help for the development of online teaching of computer courses in Colleges and universities.

**Key words:** Colleges and universities; Computer; Online teaching

With the continuous deepening of higher education in China, the informatization construction of education, teaching and management has become an inevitable trend. The computer course, which is closely related to the Internet and informatization, is undoubtedly the “pioneer” in the current informatization construction of colleges and universities. It is urgent to explore an effective network teaching method, so as to provide support for the informatization construction of colleges and universities in China. In order to achieve this goal, we need to correctly grasp the various problems in the current network education, and take corresponding countermeasures, so as to achieve the purpose of improving the quality of network teaching .

## 1 An overview of computer course teaching reform and online teaching in Colleges and Universities

### 1. Teaching reform of computer course in Colleges and Universities

With the rapid development of the times, the demand for talents is also constantly updated and improved. As an industry with rapid development, frequent updating and in urgent need of a large number of high-quality talents, colleges and universities have correctly recognized this problem, actively taken corresponding measures in practical work, complied with the development trend of the times, and vigorously promoted the teaching reform of computer courses. It is necessary to improve the quality of personnel training, ensure timeliness, and truly keep pace with the times, Continue to deliver a large number of excellent talents with advanced concepts, advanced consciousness and qualified ability and literacy to the society . This needs to strengthen the curriculum development, shape the characteristics of subject teaching, promote the innovation and optimization of teaching methods, build an advanced classroom of “people-oriented”, and fully mobilize the comprehensive development of students’ autonomous learning, exploration, questioning, thinking and practice. Under the background of education informatization, online education is the inevitable trend of education informatization development. The reform of computer education in Colleges and universities should actively explore the corresponding informatization teaching mode, especially to vigorously develop online teaching, build a new teaching mode that meets the requirements of the information age and professional characteristics, and provide strong support for teaching innovation and professional development .

### 2. Advantages of online teaching of computer courses in Colleges and Universities

In the process of computer course teaching, the use of online teaching can improve the teaching quality at many levels. First of all, online teaching has rich educational resources. Both teachers and students can obtain rich teaching resources through the information network, which meets the personalized requirements of teachers and students for resource content in the teaching process . Second, online teaching has broken through the limitations of time and space. Due to the variety and complexity of computer courses, it is impossible to meet the students’ needs for knowledge only through classroom teaching. Online teaching can break through the limitations of time and space, allowing students to learn autonomously at any time and anywhere. At the same time, teachers can also answer questions online, greatly improving the flexibility of teaching and learning. Thirdly, online teaching has constructed the mode of students’ independent inquiry . The teaching task of computer course is relatively heavy. The traditional teaching method is basically completed by teachers in limited class hours, which leads to the lack of students’ autonomous learning ability and affects the teaching effect and the cultivation of students’ ability. The use of online teaching method, teaching activities are not restricted by time and space, rich teaching resources and advanced teaching methods provide a good environment for students’ autonomous learning and exploration, which can make the teaching mode develop in the direction of “people-oriented”, fully reflect the subjectivity of students, and improve the teaching effect, Promote students’ self growth and development. Finally, online teaching can strengthen students’ practical teaching, online teaching can provide students with a good online practice environment, so that students can carry out practical research while conducting independent exploration, so that it is not limited in theory. Online teaching is conducive to teaching evaluation. Online teaching can realize the real-time processing and continuous tracking feedback of teaching evaluation, so that teaching evaluation can comprehensively cover all links of teaching activities, promote the reasonable innovation of evaluation mechanism, effectively improve the quality and efficiency of evaluation work, and continuously improve the overall level of teaching .

## **2 Problems in the development of online teaching of computer courses in Colleges and Universities**

### **1. Insufficient teaching level of Teachers**

To some extent, the learning effect of students depends on the teaching level of teachers. Therefore, teachers of computer courses should constantly strengthen their teaching skills. At present, the teaching level of computer course teachers in Colleges and universities is insufficient, the teaching mode adopted is inappropriate, the teaching means are too single, and students are blindly indoctrinated in the teaching process, resulting in students' passive learning and acceptance of knowledge, which will cause students to lose interest in learning computer courses for a long time, and seriously affect the teaching effect and quality. Therefore, in order to change this situation, computer teachers should constantly improve their teaching ability, be good at applying new teaching technologies and means to innovate teaching methods, and combine theoretical knowledge with practice to improve the comprehensive ability of college students.

### **2. Online teaching completely copy the traditional offline mode**

Because teachers do not master the online teaching mode enough, they cannot use the corresponding teaching methods and teaching approaches to carry out online teaching activities, resulting in completely copying the teaching methods of offline teaching mode. There are great differences between online and offline classroom teaching. Simply copying offline classroom is equivalent to applying traditional teaching methods to online classroom, which can not give full play to the advantages of online teaching, affecting the teaching effect, leading to the failure to fully combine teaching methods with modern educational technology, especially under the premise that teachers and students can not communicate face to face, Hindering normal classroom teaching; If we blindly use the traditional offline teaching mode for online teaching, it is easy to have difficulties in the communication between students and teachers, which makes it more and more difficult to achieve the expected teaching effect and achieve the teaching goal.

### **3. Disconnection between online teaching and offline Teaching**

While carrying out online education, offline education cannot be ignored. Because the online and offline teaching modes are different, it is difficult to improve the teaching quality by one teaching method alone. We should actively explore the collaborative development of the two to form an online and offline integrated teaching mode. The problem with the current online and offline teaching mode is that the teaching between online and offline is disconnected. The teaching relationship between the two is not close enough, and the synchronization rate is low. It can not provide students with a complete teaching process, which largely limits classroom teaching. In the process of reform and improvement of computer course teaching, Can not give full play to the effect and advantages of online teaching.

### **4. The evaluation mechanism is not sound enough**

In the teaching of computer course, assessment and evaluation is a very important work. It can accurately reflect the teaching situation and provide important basis for optimizing teaching. There are great differences between online teaching and traditional offline teaching methods. In order to better adapt to this new teaching method, it is necessary to carry out effective evaluation. However, the current online teaching evaluation mechanism of computer courses in Colleges and universities is not perfect. It has not been reasonably optimized according to the characteristics of online teaching, and the evaluation mechanism is relatively backward, so it is difficult to carry out effective supervision and objective evaluation.

## **3 Online teaching strategies for the development of computer courses in Colleges and Universities**

### **1. Improve the management system of online teaching**

In order to ensure the feasibility, sustainability and effectiveness of online teaching, it is necessary to improve the corresponding online teaching management system. Schools must establish appropriate and sound management system based on the curriculum platform and teaching as the core according to the relevant educational administration management of online courses. The management system should combine the characteristics of online teaching and the characteristics of computer courses to ensure the rationality and effectiveness of the management system itself. It stipulates teachers' online teaching, pre class mobilization, live education, after-school guidance, online question and answer, learning method guidance, class listening and evaluation activities, hierarchical and classified guidance, and ensures the orderly and long-term development of online teaching with systems. Teachers should earnestly fulfill the basic mission of cultivating morality, give full play to the educational role of online teaching, strengthen the education of socialist core values, carry out ideological and political work throughout the whole process of education and teaching, and actively guide and cultivate students' correct socialist core values. In order to ensure orderly teaching and prevent teaching conflicts, online live classes and online communication between teachers and students (QQ group, teaching platform, online discussion) should be arranged according to class hours, and the teaching content should not be adjusted. In the teaching process, teachers should strictly follow the teaching objectives and teaching plans, reasonably arrange the teaching content and corresponding class hours, scientifically formulate the teaching plan, process assessment scheme and evaluation scheme, and notify the students in advance, so as to achieve the purpose of no reduction in standards and contents. Under the guidance of the teacher, students learn according to the teacher's teaching arrangement. Students are required to make full use of high-quality network resources to carry out autonomous learning, share knowledge and information, carry out knowledge discussion, and effectively improve students' autonomous learning ability through in-depth reading, independent thinking, and active interaction.

### **2. Improve the evaluation mechanism**

We should improve the evaluation mechanism, conduct a comprehensive and whole process evaluation of the entire online teaching activities, and introduce advanced evaluation methods, such as teacher-student mutual evaluation, group mutual evaluation, and systematic

self-evaluation, so as to ensure the objective and reliable evaluation of online teaching as much as possible. Scientifically formulate the implementation plan of online teaching, formulate the learning schedule, curriculum schedule and curriculum implementation plan, and strengthen teaching evaluation by using teaching software and big data technology. Teachers should conduct self-examination and self-assessment according to the assessment methods, so as to make a scientific assessment of the teaching process and teaching results. Using the methods of regular spot check and random sampling, this paper comprehensively analyzes and evaluates the problems and defects in the online teaching of computer courses in real time, and makes corresponding improvements. In addition, in the evaluation of online teaching of computer courses, we should pay attention to the development of students' practical ability and comprehensive quality. Through the platform, teachers can count students' classroom performance and evaluate students' comprehensive ability. Students can also evaluate themselves, evaluate each other and share excellent works, so as to achieve a comprehensive evaluation of students' practical ability.

### 3. Construction of online and offline hybrid teaching mode

While promoting the development of online teaching of computer courses, the advantages of offline teaching cannot be ignored. It is necessary to explore the online and offline hybrid teaching mode, build a more practical and high-quality teaching mode, and ensure the actual teaching effect and students' growth and development. Compared with pure online teaching, the main difference between online and offline hybrid teaching is reflected in the classroom stage. Teaching in the form of face-to-face teaching by teachers is conducive to promoting teacher interaction, forming a benign classroom environment, making teachers more objective and accurate in mastering the actual state of students, and ensuring the teaching effect by enhancing the interaction. In this course, the concept of "flipped classroom" should be fully used for reference, but the teaching method of "flipped classroom" should not be completely applied. Otherwise, the depth of students' autonomous preview knowledge in class will rise sharply, increasing their review pressure, which will lead to their lack of enthusiasm and motivation for review. According to the specific course requirements, make full use of the micro lecture and other prepared in class preview materials, guide students to independently complete the preview task, and check students' Preview through the online teaching platform, collect the problems in time, and solve students' confusion online. In the stage of interactive teaching in the classroom, teachers should first answer the questions of students' difficulties before class, guide students to exchange and discuss, and teachers and students summarize together, so as to build a harmonious teaching atmosphere and promote students' independent thinking and exploration. Then teachers should fully highlight the advantages of their professional knowledge and educational characteristics in actual teaching, try to impart knowledge in a detailed, vivid and interesting form, and integrate the latest computer, information technology, network and other related teaching content into the teaching content. They need to explore a variety of teaching methods, such as game teaching method, cooperative teaching method, situational teaching method, etc. In the after-school stage, teachers need to use the online course platform to share review materials and expand resources, arrange after-school homework, guide students to carry out after-school practical activities, and answer questions and solve problems for students online.

### 4. Implement the construction of online teaching platform

The teaching platform is an important basis for online teaching. It is mainly responsible for providing resources, realizing business needs, connecting teachers and students, transmitting information and deepening interaction. Based on the implementation of information infrastructure construction, colleges and universities, relying on the campus website and computer room environment, actively build relevant information teaching platforms, unify the transmission network, security, operation and maintenance management, identity authentication, backup and recovery, open application interfaces, service platforms and basic resources, and configure corresponding online course services, score query services, basic data services and other functions provide basic support for the development of online teaching activities. Teachers and students can directly log on to the online teaching platform through the campus network, input the account and password, and then obtain the corresponding operations and functions, and carry out online teaching with the help of the network platform. On the network teaching platform, teachers and teachers can share resources, assign homework, communicate with students in real time, observe students' learning situation, data query, data management, etc. through the online teaching platform. At the same time, students can also use the resources of the online teaching platform to ask teachers for advice, cooperate with students in learning, and complete their homework.

Conclusion: To sum up, there are absolute advantages in the development of online teaching of computer courses in Colleges and universities, but there are still many problems in the development of online teaching of computer courses in Colleges and universities. In view of these problems, this paper proposes to implement the construction of online teaching platform, build online and offline hybrid teaching mode, improve the evaluation mechanism. Improving the online teaching management system and other measures will effectively improve the teaching efficiency of computer courses in Colleges and universities.

## References:

- [1] Qin Shaoying Analysis of online and offline hybrid teaching mode of computer courses in secondary vocational schools under the background of "Internet +" [J] Office automation, 2022, 27 (1): 23-25+35
- [2] Zhang Yanhong, Jin ran, Dong Chen Exploration and practice of "student centered" blended teaching reform -- Taking "computer network" course as an example [J] China information technology education, 2022 (1): 102-104
- [3] Dinglin, tanminsheng, tanbang Ideological and political construction of computer network course based on Hybrid Teaching [J] Computer education, 2022 (09): 77-80
- [4] Caohai Feng Online hybrid teaching practice of computer course [J] Integrated circuit applications, 2022, 39 (09): 102-103
- [5] Liyuehong Reform and practice of blended teaching of basic computer courses in Universities -- Taking Hulunbuir University as an example [J] Journal of

Hulunbair University, 2022,30 (04): 125-129

[6] Zhouyuping, liuxiaowen, longhaixia, huangliyu Research on the application of Hybrid Teaching Mode in the basic courses of computer specialty -- Taking the course of "Fundamentals of computer application" as an example [j] Shanxi youth, 2022 (1): 86-88

[7] Xie shengxia Design and Research on teaching evaluation of "student-centered" blended teaching mode [j] Grade · classic, 2022 (1): 152-154

[8] Guoxu Perspective and Reflection on Hybrid Teaching of secondary vocational computer course from the perspective of "Internet +" [j] Journal of Yanbian Institute of education, 2022,36 (04): 119-121

[9] Zhang Qian, jishaoqi, Wu Yilin, Liu Lindong, Xu Shiyu Practice of Hybrid Teaching Reform of computer composition principle combined with OBE [j] Computer knowledge and technology, 2022,18 (3): 171-174+177

[10] Zhan Xiuju Research on Hybrid Teaching of computer public courses in traditional Chinese medicine based on Computational Thinking [j] Computer knowledge and technology, 2022,18 (4): 174-175

[11] Jiang Yong, hanzhiyong, Gao Yu, Yaolin, Lu Bing Research on satisfaction of Hybrid Teaching of computer foundation in Medical Colleges -- Taking Jinzhou Medical University as an example [j] China higher medical education, 2022 (08): 33-34

[12] Lixiaobo, zhangguochen Hybrid Teaching Design of Computer Composition Principle Course Based on TPACK theoretical framework [j] Computer education, 2022 (08): 38-42

[13] Zhajianhong Practical application of Hybrid Teaching in computer teaching and training [j] New education, 2022 (2): 89-90

[14] Zhaohui, Ni ran Thinking and practice of online and offline Hybrid Teaching of fundamentals of computer technology (Python) [j] Theoretical research and practice of innovation and entrepreneurship, 2022,5 (4): 60-62

[15] Wang Hui Research on online and offline Hybrid Teaching of computer information technology course [j] Computer knowledge and technology, 2022,18 (2): 159-160