

Teaching Reform on Computer Basic Course Based on Blended Teaching Model

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Abstract: The blended teaching mode is applied to the teaching of computer basic courses. It can innovate the traditional teaching mode, realize the dual-subject teaching, improve the comprehensive quality of teachers, implement the policy of teaching students according to their aptitude, and meet the needs of students at different levels. Based on constructivist theory, humanistic theory and teaching interaction theory, this paper aims at the problems existing in the teaching of computer basic courses, combined with the author's many years of computer basic course teaching practice, from teaching objectives, teaching content, teaching resources, teaching process, In terms of practical teaching and teaching evaluation, specific reform measures are proposed to provide guidance for the teaching reform of computer basic courses based on the blended teaching mode, improve students' computer application skills and promote the formation of computational thinking.

1. Introduction

The computer foundation is the basic course for non-computer major students to learn the basic knowledge of computing, cultivate the computational thinking ability and personal information literacy of college students, deepen their understanding of computer knowledge, learn how to use computer analysis to deal with problems, form a lifelong learning consciousness, and become a student The foundation for high-quality information talents needed in modern society. The goal of the course is to master the basic knowledge of computers through knowledge learning and practical operations, to skillfully apply computer office software, and to learn to process documents and data. Students should also learn about computer network technology and master the methods of processing multimedia materials, including graphics, video, audio and animation. Students should also be familiar with the information security knowledge of computers and improve the awareness of network information security protection.

Blended teaching is a teaching mode that combines modern network teaching with traditional classroom teaching. On the basis of inheriting and developing the essence of traditional classroom teaching, it effectively introduces the network teaching mode, mobilizes students' independent learning passion, and improves students' independent learning ability. The use of blended teaching in classroom teaching is one of the effective ways to achieve students' quality education. By carrying out mixed teaching methods, improve the quality and level of classroom teaching, improve students' comprehensive quality and mastery of knowledge, and comprehensively train students' interest, to promote the full development of students. In addition, the blended teaching method can effectively change the relationship between teachers and students, and strengthen the communication between teachers and students. Compared with traditional teaching, students are always placed at the forefront, combining different teaching concepts and teaching principles to form a new teaching strategy to maximize the quality of classroom teaching.

The blended teaching mode plays an important role in the teaching of computer basic courses: First, it innovates the traditional teaching mode and realizes the dual subject teaching. The traditional teaching process is controlled by teachers, and students are prone to school-weariness. The blended teaching combines traditional classroom teaching with "teaching" and online teaching

with "learning" to improve the teaching atmosphere, strengthen the two-way interaction between teachers and students, give full play to the leading role of teachers, and highlight students' subjectivity, to achieve dual subject teaching. Second, improve the overall quality of teachers. In the mixed teaching mode, the teacher is not only the leader of the teaching activities, but also the developer of the network teaching resources. On the basis of the basic knowledge of the computer, the teacher also needs to master the knowledge of network communication, and use the computer software to design the teaching courseware and develop the network course. Only by continuously learning and improving the overall quality can teachers meet the needs of teaching. Third, implement the policy of teaching students according to their aptitude and meet the needs of students at different levels. Due to differences in regional economy, teaching environment, and students' own interests, students who have just entered colleges have different computer application skills. The blended teaching maximizes the teaching of students in accordance with their aptitude. Students choose their own teaching resources to conduct self-learning. Students with poor foundations can gradually master the basic knowledge of computers. Students with good foundations can further improve their skills and fully meet the learning needs of students at different levels.

2. Theoretical Basis on Blended Teaching Model

The theoretical basis of the blended teaching model mainly includes constructivist theory, humanistic theory and teaching interaction theory. The theories are briefly described as follows:

(1) Constructivist theory. Constructivism believes that knowledge is obtained by students in a certain context through meaningful construction. Knowledge does not simply reflect reality objectively. It is only an explanation or hypothesis of the objective world that changes and deepens as the level of cognition deepens, and then new explanations and assumptions emerge. The process of learning is the process by which students continue to form knowledge. Students should not passively accept information, but should actively participate in the construction of knowledge.

(2) Humanistic theory. Humanistic theory focuses on how to create a good environment for learners to perceive the world from their own perspectives and develop an understanding of the world to achieve the highest realm of self-realization. Teachers should highlight the central position of students, create a good classroom atmosphere, promote the free development of students' body and mind, fully trust students, respect the inner world of students, appear as promoters, and maximize the potential of students.

(3) Teaching interaction theory. Teaching interaction is an event that occurs between the student and the learning environment. The essence is the interaction between the learner and the learning environment for the purpose of constructing the correct meaning of the learning content in the learning process. Teaching interactions are hierarchical, from operational interactions to information interactions to conceptual interactions, from concrete to abstract, from low-level to advance. Advanced teaching interactions are conditional and based on low-level teaching interactions.

3. Existing Problems on Computer Basic Course Teaching

There are many problems in the current computer basic course teaching, which are summarized as follows:

(1) Teaching objectives are more random. The university computer foundation is a public course for non-computer majors. The teaching objectives need to be developed synchronously with the whole professional teaching reform. It is also combined with the characteristics of computer technology development, focusing on computer basic knowledge and ability training, and laying a good professional knowledge for the follow-up courses and the basic of skills. However, the current computer-based teaching objectives and majors have not been linked together, overemphasizing scores and passing rates, ignoring students' ability to solve practical problems, and teaching objectives tend to be unified, and do not reflect the basics of computer-based teaching.

(2) Practice teaching is not taken seriously. In the current computer basic course, the teacher is both a theoretical class teacher and a practical class instructor. Most teachers pay great attention to theoretical teaching, but they don't know enough about practical teaching. They think that practical teaching is the subsidiary of theoretical teaching. Put practical teaching in a position that relies on theoretical teaching, emphasize theoretical knowledge, and despise students' practical ability. In particular, it does not pay attention to the cultivation of innovative ability. The teaching plan does not pay attention to practical teaching, the practice teaching planning and design is imperfect, the practical requirements and content are more random, and there are more students such as surfing the Internet, playing games and chatting.

(3) The teaching content is not attractive. Computers have become popular in most families. Computers can be seen everywhere in daily life. Before entering the university, students already have a certain basic knowledge of computers. They have mastered basic computer operations, text editing and layout, multimedia courseware production and information collection and processing. The content of the university computer basic course is mainly the use of office automation software. The students' enthusiasm for learning is not high, which creates a misconception for students. The computer is only an auxiliary tool. It does not need to be too deep, and there is no necessary connection with the professional study of students. Students have lower interest in learning.

(4) The teaching model is relatively backward. Affected by traditional teaching, the teaching of computer basic courses in colleges and universities has a single teaching mode. The teaching atmosphere is relatively depressed and the students' enthusiasm is not high. The teacher is in the main position, relying on the teaching materials to explain the knowledge, and the students are in a passive acceptance position. This infusion teaching method has affected the enthusiasm of students and the cultivation of innovative thinking ability. Students' thinking is limited, and the learning state tends to be passive and lacking initiative. Although the computer experimental equipment is more advanced, students can only practice according to the teacher's explanation, and still have not got rid of the constraints of teachers and teaching materials.

(5) Teaching methods lack innovation. The basic computer course teaching is basically using computer multimedia equipment for broadcasting teaching. There is no essential difference between the traditional use of blackboard and classroom teaching. It is just to move the content on the blackboard to the screen. The teacher explains according to the content displayed on the screen. It is boring and affects enthusiasm. The computer basic course adopts the combination of theoretical class and practical class. After some classes finish the theoretical class, they can only get on the training every few days. Most of the students taught in the theoretical class have forgotten that the teacher still needs the computer experiment. Repeated teaching has affected the efficiency of teaching.

4. Teaching Reform on Computer Basic Course Based on Blended Teaching Model

The computer basic course teaching based on the blended teaching mode needs to carry out all-round reform from the aspects of teaching objectives, teaching content, teaching resources, teaching process, practical teaching and teaching evaluation. The specific reforms are as follows:

(1) Teaching objectives. The teaching goal is a clear statement about what kind of changes will be made to the students in the teaching, and refers to the learning outcomes expected in the teaching activities. Teaching objectives play an important role in the teaching process. Teaching activities are guided by teaching objectives and always focus on teaching objectives. The traditional teaching goal is more focused on the knowledge goal, so the ability goal is neglected, and the knowledge of the students is emphasized, and the students' ability is not emphasized. The computer-based curriculum based on the blended teaching mode focuses on the improvement of capabilities: first, master the basic knowledge of computers and network systems, including hardware, software and networks; second, the ability to apply computer technology to solve common problems; third, with basic information literacy and ability; Fourth, with the integration and development capabilities of computer application systems in the professional field.

(2) Teaching content. The teaching content is the main information transmitted during the

interaction between teaching and learning, including curriculum standards, teaching materials and courses. For a long time, people have always equated textbooks with teaching content, what the curriculum standards require, and what teachers teach. In fact, the textbook is only a carrier for the formation of teaching content, and the teaching content that plays a practical role is different from the content of the textbook. With the changes of the times and social progress, the difficulty of teaching content has gradually increased. From the basic concepts of computers to the use of popular software, the university computer foundation emphasizes the cultivation of computational thinking. Based on the blended teaching mode, the computer basic course teaching, cultivate students' basic ability and thinking method of applying computer, make the computer become a powerful tool for students to acquire knowledge and improve their quality.

(3) Education resources. Teaching resources are materials for the effective development of teaching and various conditions that can be utilized, usually including teaching materials, cases, films, pictures and courseware, as well as teacher resources, teaching aids, infrastructure, etc., which are the source of teaching materials and information. According to the computer-based course teaching process based on the blended teaching mode, three stages of teaching resources need to be designed: pre-course electronic resources, including online video, micro-courses, pre-school test questions and mind maps; electronic resources in the course, including PPT, exercises and test questions used in the lectures; after-school electronic resources, including improved materials, extended materials and post-class consolidation test questions. Teaching resources should be linked to existing knowledge and life experiences, attract students' attention, establish and maintain students' self-confidence, and let learners learn the benefits and be satisfied from their success.

(4) Teaching process. The teaching process is the procedural structure of the continuous initiation of development, development, change and end of teaching activities. With the passage of time and the deepening of research, people gradually realize the complexity and diversity of the teaching process. The teaching process is not only the process of understanding, but also the process of psychological activities and the process of socialization. Based on the blended teaching mode, the teaching process consists of two parts: extracurricular and in-class. Each link is composed of two parts: teacher activity and student activity. The focus is on giving the autonomy of the class to the students. And develop learning resources, students learn independently before class, and incorporate new knowledge into their own knowledge structure, teachers focus on explaining to achieve internalization of knowledge, students realize post-classification and reconstruction of knowledge structure through communication, and finally summarize and sublimate knowledge through discussion.

(5) Practical teaching. Practical teaching is an effective way to consolidate theoretical knowledge and deepen theoretical understanding. It is an important link for cultivating high-quality engineering and technical personnel with innovative consciousness. It is an important platform for linking theory with practice and cultivating students to master scientific methods and improve their practical ability. Through practical teaching, students not only master the use of theoretical knowledge to solve practical problems, but also can more fully grasp computer operation skills. Practical teaching adopts hands-on operation, students' re-recognize computer basic knowledge; improve the participation of theoretical and practical teaching, and master more practical knowledge. Based on the blended teaching mode, the practical teaching of computer basic courses needs to establish an open practical teaching system, optimize the practice teaching structure, update the practical teaching concept, and promote students to generate more intense desire for innovation and form computational thinking.

(6) Teaching evaluation. Teaching evaluation is based on the teaching objectives, according to scientific standards, using effective technical means to measure the teaching process and results, and give the process of value judgment. The evaluation has a supervisory and intensive role for teachers and students, and the evaluation reflects the teacher's teaching effect and the student's academic performance. Based on the hybrid teaching mode of computer basic course teaching, schools need to change the evaluation method. First, the diversification of the evaluation subject is

realized; so that the evaluation truly becomes an interactive activity in which a plurality of evaluation subjects actively participate. Specifically, it includes the evaluation of the lecturer, the evaluation of the supervisor, the self-evaluation of the evaluation subject, and the mutual evaluation of the students. Second, design diversified evaluation tools as a direct basis and means of collecting evaluation data. Specifically, it can be an evaluation form, a questionnaire, an observation record, an interview method, and a study portfolio.

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