Teaching Reform of Computer Basis Course based on MOOC

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Abstract: MOOC is the application of information technology in the field of education, changing the traditional teaching mode and providing students with a free and open learning environment. Based on the relevance learning theory, humanistic learning theory and educational psychology theory, this paper points out the advantages of MOOC in learning time, solving passive learning problems, learning resources more targeted, and strengthening interaction and communication. This paper analyzes the problems of fuzzy training objectives, less total class hours, and different computer foundations in computer basic course teaching. It also proposes to classify teaching resources, speed up teaching methods and means innovation, strengthen classroom interactive learning design, rationally transform teachers and students, and adopt a multi-evaluation system and other MOOC-based computer basic course teaching reform measures.

1. Introduction

The Computer Basic Course is a computer-based course for non-computer majors. It is a compulsory public foundation course and an introductory course for computer applications. Through the study of this course, students will master the basic computer knowledge and basic operational skills necessary for work, study and life in the information society, systematically and correctly establish computer-related concepts and microcomputer operation techniques; The use of computers and commonly used applications in a network environment; the ability to access and exchange information online, laying a good foundation for further learning and mastering computer knowledge and technology in the future.

The teaching of computer basic course consists of two parts: theory and practice. The teaching content is not only a simple combination of concepts, principles, methods and rules, but a knowledge and skill system based on the needs of personnel training and the status quo of computer development. Therefore, the teaching of computer basic subjects should complement and promote each other's teaching modes and teaching methods, and comprehensively cultivate students' self-learning ability, practical ability, problem-solving ability and comprehensive application ability. MOOC is the application of information technology in the field of education. The teaching in the context of MOOC has changed the traditional teaching mode. Using the Internet to learn will be the future trend. From the perspective of education reform, we must constantly update teaching methods to meet the needs of the times. MOOC provides students with more educational opportunities and can help schools improve their teaching systems and methods. Research on computer-based curriculum reform based on MOOC, innovative teaching methods and methods, provide students with a free and open learning environment, effectively promote student learning, strengthen students' self-directed learning awareness, and provide theoretical basis and realistic ways for innovative talent training.

2. Theoretical Basis

The relevant theories based on MOOC mainly include the following three:

(1) Relevance learning theory. Learning environment changes have always influenced the thinking of learning and teaching. Computer technology and network technology have developed rapidly, providing people with new learning tools, opening a new learning environment, and learning methods and understanding of learning will inevitably change. Relevance learning theory is the inevitable result of the development of learning methods and learning fields in the new era. On the one hand, it adapts to the trend of social science and technology development; on the other hand, it caters to the objective needs of network digital learning, and more adapts to the characteristics of the network era, opening a new path for research and study. With the continuous development of network information technology, the relevance learning theory will show great practical prospects and application value.

(2) Humanistic learning theory. The humanistic learning theory emphasizes students' self-learning, self-constructed knowledge and collaborative learning. Different from constructivism, it emphasizes people-oriented, emphasizes students' self-development, emphasizes the creative potential of people, and emphasizes emotional education. The MOOC platform creates a relaxed and free learning environment for students. Students choose learning content according to their own interests and abilities. Teachers should fully consider the connection between students' existing knowledge and new knowledge, conduct group learning, assign learning tasks, and make each Students are happy to participate, stimulate learning enthusiasm, promote communication skills, and provide individualized guidance for students, which is consistent with the "student-centered" perspective.

(3) Educational psychology theory. Educational psychology researches psychological rules and psychological characteristics in teaching activities, assists in designing courses, improving teaching methods, stimulating learning motivation, helping students face various difficulties and challenges in the process of growth, and providing scientific basis for improving teaching quality. Whether it is online learning or offline classroom teaching, theoretical guidance of educational psychology is needed. Combining online MOOC resources with offline classroom instruction, taking into account individual student differences, helps students develop their own learning growth plans. Teachers give students trust and encouragement, respect students' personality characteristics, give full play to students' individualized learning consciousness, and activate the classroom atmosphere and stimulate students' enthusiasm.

3. Advantages of MOOC

MOOC brings the world's advanced education concept and has many unparalleled advantages in traditional teaching mode, mainly reflected in the following four aspects:

(1) Learning time is shorter. Compared to traditional video teaching, MOOC's teaching duration is more attractive. Whether it is traditional teaching or video teaching, in the period of nearly 40-50 minutes, neither students nor teachers can guarantee a high concentration of spirit throughout the teaching process. The teaching results and learning effects are worse. MOOC's teaching curriculum is carefully refined by experts and teachers. It is the essence of concentrated and concentrated knowledge. Concentrating knowledge in 10-20 minutes, students can energetically complete the whole process of learning, teaching results and learning results are very good. Many of MOOC's courses are free, not only saving on learning costs, but also educating people who cannot learn because of family poverty and promoting education equity and social equity.

(2) Solved the problem of passive learning. The fundamental value and purpose of education is to "cultivate people" and to cultivate "conscious, automatic, developmental, creative, social" people. The speed of knowledge update in the information age is accelerating. College students have distinct personalities and strong sense of autonomy. Traditional education methods such as indoctrination or compulsory have not been able to adapt to the current situation. MOOC's self-selectivity fully reflects the characteristics of humanization, with learners as the center, embodying humanistic ideas, and learners choose learning content according to their own interests and hobbies. MOOC's learning content is flexible and attractive, adapting to the characteristics of fragmented learning in the digital age, and is not restricted by the time and place of study. Learners

choose to learn according to their individual circumstances and fundamentally solve the problem of passive learning.

(3) Learning resources are more targeted. MOOC pursues a complete and standardized education system. Traditional video courses have only curriculum resources and lack other links. MOOC makes reasonable arrangements for all aspects of learning, including not only difficult answers, but also after-school exercises. MOOC can effectively understand the students' learning situation. According to the replay rate and keyword statistics, it is determined that the knowledge of the students is not in place, and then it is targeted to strengthen. The units and individuals who produce video and online courseware in China are lacking in strength and scale, and the content produced may not meet the actual learning needs. MOOC relies on world-renowned universities and teachers to achieve world-class level, with excellent production, strict structure and complete content.

(4) Strengthened interaction and exchange. From a psychological point of view, interactive communication is the process of learning each other's strengths, perfecting one's personality, and promoting the healthy development of mind and body. The essence of education is "teaching and educating people". Teachers impart professional knowledge and establish intimate relationships between teachers and students through emotional exchanges. Educational thoughts can resonate with students. Teaching knowledge can be easily accepted by students, making it easier to shape students. Perfect personality. MOOC reduces the time for teachers to lecture, prepare lessons and prepare materials, and more energy to face-to-face or online communication with students, to achieve a supplementary teaching, exchange and discussion-based interaction, to enhance communication between teachers and students, and to optimize "technical teaching" process. MOOC also unblocked the communication channels between the students, meeting the needs of students to learn from each other, exchange information, and communicate emotionally.

4. Existing Problems in the Teaching of Computer Basis Course

There are many problems in the current computer basic course teaching, which are highlighted in the following aspects:

(1) The training target is blurred. Under the background of informatization education, the computer basic knowledge teaching system formulated by various universities has been continuously improved, and the teaching concepts and teaching methods have been continuously updated, which basically meets the needs of students in school and daily life. However, with the increasing demand for computer basic knowledge, colleges and universities have not formulated the training objectives for the development of computer-based courses. The lack of training objectives has led teachers to teach students the basics of computer science, lack of key training directions, and reduce the quality and effectiveness of teaching.

(2) The total number of class hours is small. With the popularity of computer knowledge, many teachers believe that the content and class hours of computer-based courses can be greatly reduced. However, because the computer-based curriculum involves more content, less time reduction does not guarantee students the necessary knowledge and skills. The current teaching content of computer basic courses in colleges and universities includes: basic theoretical knowledge, operating system, network basic knowledge and use of office software. Due to the wide coverage of the course content, there are many levels involved, new knowledge points are more, and the course content is relatively complicated. Significantly reducing the amount of class time, resulting in unsatisfactory teaching results, and could not achieve an effective connection between theory and practice.

(3) Students have different computer foundations. At present, most families are equipped with computer systems. The computer application ability of students is no longer a "zero starting point". Many students have studied information technology courses in primary and secondary schools and have certain computer operation capabilities. In the face of students with different foundations, the teaching process still adopts a "one size fits all" approach. Students with relatively good foundations will lose interest, lack of concentration in class, and even absenteeism; students with relatively poor foundations cannot fully understand The content taught by the teacher. As a result,

students with relatively good foundations are less and less fond of learning; students with relatively poor foundations are more and less able to learn.

5. Teaching Reform Measures of Computer Basis Course based on MOOC

In view of the problems existing in the teaching of computer basic courses, give full play to the advantages of MOOC, and refer to the previous research results, the MOOC-based computer basic course teaching reform measures proposed in this paper are as follows:

(1) Classification and construction of teaching resources. Computer-based teaching in the MOOC mode, if teachers provide a variety of types and diverse teaching resources, regardless of the level and category to the students, will lead to students unable to start, causing anxiety and resentment and other negative emotions. Therefore, teachers should systematically classify MOOC resources in advance and help students determine learning plans and ideas. Teachers can integrate MOOC teaching resources with self-built resources and recommend them according to the characteristics of students. For students with better computer foundation, self-learning and self-control ability, MOOC and other online teaching resources are the main recommendation objects; for students with certain computer foundation but knowledge is not strong, self-made teaching resources and other types will be used. Expand resources as a recommendation; for students with poor computer basic knowledge, encourage them to invest more time and energy, mainly recommend simple self-made resources, and shorten the gap with other students.

(2) Accelerate the innovation of teaching methods and means. In line with the requirements of the times, strengthen communication and cooperation with other institutions, fully realize resource sharing, organize teachers to carry out study and practice, and master the most advanced subject knowledge. Through innovative teaching methods and methods, students' satisfaction with computer basic courses will be improved. With the help of online quality courses, students can meet the needs of independent learning and support teaching reform. In the classroom teaching, pay attention to establish the subjective status of the students, and the teachers should do their best to solve and guide. Based on the MOOC platform, it is possible to shorten the theoretical teaching time, strengthen the cultivation of practical operation ability, and realize the internalization of theoretical knowledge. After class, pay attention to reflection, combine students' pre-class and classroom learning, find out existing problems, adjust teaching progress, change teaching ideas and methods, and improve teaching results.

(3) Strengthen classroom interactive learning design. MOOC teaching emphasizes interaction, which is also a distinguishing feature of its traditional teaching mode. The application goals of computer teaching also emphasize the active learning and interactive experience of students. In the micro-course teaching design, through the online test behind each teaching module, the MOOC platform can feedback the test results in time, so that the teachers can grasp the key points and difficulties of the teaching in time, or find some new problems, thus enlightening the teaching. At the same time, with the help of cloud computing and data mining technology, the data model is built according to the feedback information of students and the useful information is extracted from the model through the algorithm analysis of data mining, which provides an effective basis for further improving the teaching design.

(4) Reasonably change the role of teachers and students. In traditional computer-based teaching, teachers occupy the dominant position in classroom teaching. Students can only passively accept knowledge, which seriously restricts the overall development of students and causes students to be tired of learning. Therefore, the MOOC concept advocates the transformation of the role of teachers and students, respects the subjectivity of student learning, teachers should return the classroom to the students, act as the organizer and assistant of the students' learning, and arrange the learning methods and time by the students themselves. MOOC is interactive and self-contained, and it is the best means to achieve a student-oriented educational philosophy. MOOC has no restrictions on time and place, and can effectively cultivate students' innovative thinking and learning ability. Teachers should break through the constraints of traditional computer teaching mode, organize teaching according to students' needs and individuality, and make a reasonable transformation of the roles of

teachers and students.

(5) Adopt a diversified evaluation system. The traditional single teaching mode can no longer meet the needs of modern education. The MOOC era adopts a diversified teaching model and it also needs a supporting diversified evaluation system. Traditional computer teaching evaluations are usually conducted at the end of the theoretical examination and online testing. In the MOOC environment, online teaching evaluation methods should be flexible and diversified. On the one hand, the assessment time is no longer just the end of the period, but the whole process of learning; on the other hand, the assessment of content diversity, including computer practice perception, computer professional works, computer papers and thematic discussions. Through the combination of theory and practice at the usual and end of the period, a diversified evaluation system is formed.

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