Problems and Countermeasures in Teaching Design of Computer Network Excellent Courses

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ABSTRACT

The construction of computer network excellent course is an important measure to adapt to popular education, deepen teaching reform and improve teaching quality. Based on the teaching of computer network excellent course, the article analyzes some problems in teaching design of computer network excellent course, such as the slow updating of teaching contents, the lack of interaction in teaching process, the over-teaching teaching method, the lack of teaching evaluation and feedback, and put forward constructive measures.

1. Introduction

As higher education enters the stage of popularization, the task of deepening the teaching reform and enhancing the quality of teaching has gradually become more prominent. As an important part of the quality engineering of higher education, the network excellent course project can effectively share teaching resources and optimize the allocation of teaching resources by using digital means so as to enhance the teaching quality and deepen the educational reform. The launch of network excellent course construction project not only helps to adapt to the actual demand of popular education, restrain the homogenization development of universities, but also alleviates the practical problems such as the lack of teaching resources and the decline of teaching quality caused by the expansion of universities, and form a continuous mechanism of promotion for optimizing the allocation of teaching resources for universities in the future and effectively training applied talents.

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Under the prosperous development of modern Internet and information technology, computer network excellent course is valued by major universities. Computer courses are taught in the form of online excellent courses, effectively utilizing the advantages of information technology, giving full play to the specialties of online media, transforming the traditional restrictive physical environment into an interactive online teaching environment, breaking the limitation of time and space of traditional teaching and realizing the open sharing of teaching resources, and then to meet the educational lifelong of education and learning universal education needs.

In the process of computer network excellent course construction, the ways of disseminating teaching information through online media have impacted the traditional teaching concept, teaching system, teaching mode and teaching methods to a certain extent, resulting in many problems. For example, the current teaching design and teaching objectives do not match, and teaching ideas and teaching methods are inconsistent, often resulting in the formalization of teaching and the lack of standardization. It is difficult to play interactive teaching network function, and more difficult to achieve the goal of training applied and creative talents. In order to give full play to the advantages of the computer network excellent course, through the analysis and research of the existing problems in teaching design of the computer network excellent course, we can get the idea of optimizing the current online teaching model to explore more systematic measures in teaching design, enhance their teaching function, reduce the negative impact of teaching methods and teaching methods on teaching quality and provide constructive suggestions for the teaching design and development of computer network excellent courses.

2. Problems and Cause in Teaching Design of Computer Network Excellent Course

(1) The update to teaching content is slow so that it is difficult to effectively connect with practice

The design of teaching content of computer network excellent course is the support system for implementing teaching design. The teaching content should pay more attention to the frontier of disciplines, and present the current technological achievements to students, and embody the art of "network" and "excellent." Compared with other specialized courses, computer expertise changes rapidly, and computer technology and product constantly update. Therefore, the teaching content of computer network excellent course mainly prepare students for adapting to the technology, we should focus on the update of knowledge and timeliness of teaching content. If the computer network excellent course can only offer classical materials and theoretical content, no longer updating the new concept of new knowledge, students can only master the computer expertise, but not have an effective grasp of practical skills.

Computer courses pay the most attention to its application and teaching design is dominated by theory, which is often difficult to connect with practice. Traditional
computer courses mainly use spoon-feeding teaching. The contents of the teaching are firstly the composition of computer system, the representation of data information, the introduction of Windows operating system, then the elaboration of the functions of Word, Excel and PowerPoint, and finally the experimental operation to deepen the understanding of the contents of the class. However, the design of current computer network excellent course follow the traditional teaching mode, directly copying its teaching content, focusing on theoretical study, lacking content design and the distinction between theoretical level and practical level. It did not make full use of the advantages of information technology, and lost the essence of teaching content—teaching practice. Whether it is traditional computer courses or computer network excellent course, the current teaching focus only on theoretical study, and use test to judge the quality of education, which is clearly contrary to the purpose of higher education. This is not only harmful to the cultivation of students' practical ability and creativity, but also reduces the quality of teaching.

(2) Teaching process lack interaction, which it is difficult to promote communication between teachers and students

The design of teaching process of computer network excellent course is the security system to improve the quality of teaching and deepen the teaching reform. The teaching process should pay more attention to the interaction of teaching subjects, and give full play to the real-time computer network communication, to build interactive communication between teachers and students. In the teaching process, the interaction between teachers and students is extremely crucial. Modern teaching theory advocates the interaction of teaching that the relationship between teachers and students should not only be the subject and receiver of knowledge, but also be the interactive relationship between teaching and learning, realizing the teaching goal through the imparting, communicating and interacting of thought.

In traditional computer courses, teachers teaching in classroom can not only impart knowledge to students, but also interact with students through questions, guidance and after-school communication. Through class interaction and after-school communication, teachers can not only understand students’ mastery of computer basic knowledge, answer students’ questions in real time, but also get enlightenment based on interaction, helping to improve teaching design in the next stage, targeted teaching emphasis, further improve the quality of teaching.

Compared with the traditional teaching, online teaching often has the characteristics of openness, real-time interactivity, resource sharing and teaching personalization. However, current computer network courses do not give full play to these advantages. More common phenomenon is that in order to ensure that many students can learn basic computer knowledge within a limited time teachers formulate teaching content only based on their own teaching experience. Moreover, virtual network environment hinder the interaction between teachers and students, and it is difficult for teachers to master the situation of student learning, to improve the teaching content according to the progress of students’ learning. As a result, the depth
and breadth of teaching contents are not sufficiently matched with the students' knowledge level. Once the interaction between teachers and students is weakened, it is not only difficult for teachers to analyze students’ characteristics and knowledge structure effectively and to effectively improve the quality of teaching but also for students to solve confusion in the teaching process which leads to a decrease in learning efficiency.

(3) Teaching method is single, which is difficult to achieve the integration of teaching and learning

The design of teaching method of computer network excellent course is an important means to achieve the teaching goal. The main goal of computer network excellent course is to make use of interactive network information system for teaching, so as to make use of a wide range of excellent teaching information and teaching resources to improve students' practical ability and comprehensive quality and create creative and applied talents. Therefore, teaching methods should pay more attention to the joint use of diversified methods so as to give full play to the interactive mechanism of online media, make full use of open and shared teaching resources, and promote teachers to use audio, video and other media to disseminate teaching information from multiple perspectives and vividly explain the basis of teaching knowledge, emphasis and difficulty. Students can choose different teaching methods according to their own learning conditions so as to improve teachers' teaching effectiveness, enhance students' learning efficiency and integrate teaching and learning.

In the current traditional computer course construction, teachers often neglect the teaching objectives, using traditional teaching methods which are rigid and imparting knowledge by PowerPoint, so that students feel hard to remember concepts and knowledge points. Since it is difficult to systematically understand the knowledge, it is even more impossible to Use knowledge flexibly. Most of the computer network excellent courses use the traditional single teaching method. They are not distinguished from the traditional teaching nor distinguished from other courses. They impart theoretical knowledge to students, making students feel dull and weakened their enthusiasm. In general, the current computer network excellent course did not give full play to the interactive function of information technology to achieve the height and breadth beyond the textbook, so it is difficult to construct effective knowledge scenarios to help students grasp the theoretical knowledge quickly and efficiently. To solve this problem continues, the teaching methods need re-design and improvement.

(4) Lack of teaching evaluation and feedback, which is difficult to improve and guide the teaching work

The design of teaching evaluation of computer network excellent course is an important part of optimizing teaching design. The current teaching evaluation of
The computer network excellent course is limited to teacher evaluation of student learning based on completion of the homework and assessment of examinations, ignoring the students’ experience and harvest in the learning process. Moreover, due to the existence of space-time separation in the online teaching-learning environment, there is a lack of communication between students, which makes it difficult to correctly evaluate their own learning condition. What is more important is the lack of students’ evaluation and feedback on teachers' teaching work so it is difficult to form an effective teaching-learning and improvement cycle.

Whether teachers' evaluation of students' learning situation is limited, students' evaluation of their own learning condition is incorrect, or students' feedback on teachers' teaching effect is lacking, the solution to these problems is to improve teaching design, teaching work and teaching quality.

3. Measures to optimize teaching design of computer network excellent course

(1) **Focus on transcendental knowledge, design thematic teaching and formulate practice-oriented teaching content**

The characteristics of the computer network excellent course are advancing with the time, which directly determines the rapid update of knowledge, and textbooks are hard to match with real-world knowledge real-time. However, its original intention is to cultivate creative and applied talents, therefore, the focus of teaching design is not passive learning, but the combination of active learning and passive learning. On the basis of imparting basic knowledge, transcendental knowledge will be used in adaptive teaching so as to ensure that the course content can be in line with the practice, encourage students to actively learn the techniques and actively participate in the society, cultivating students who have the basic knowledge of the theory and ability to apply it in reality.

Meanwhile, in order to further enhance the practical ability of students and improve the quality of teaching work, universities urgently need to design a thematic teaching-based and practice-oriented teaching content in computer network excellent courses. After teaching the basics, teachers can divide course into several topics based on the characteristics of computer network excellent course, using the theme as the main line of teaching, designing teaching scenarios and implementing of practical task-driven teaching module. For example, in the theme module of introduction of computer system, the teacher arranges the practical operation tasks so as to enable the students introduce special hidden knowledge by recording the video through system functions, to stimulate students' interest and initiative. It enables students to get the benefits beyond the point of knowledge in the fun themed tasks and enhance students' experience in the virtual classroom.
(2) Build an information platform and building an interactive channel for the subject of learning activities

Generally speaking, in the process of teaching, the network excellent course has set up answering platform and curriculum forum to provide teaching and communication channels for teachers and students. However, due to the limitation of virtual space, these channels often lag behind, which makes it difficult to solve problems in real time. Therefore, in order to solve the problem of learning activities topic, especially the problem of interaction between teachers and students, colleges and universities need to build an automated information platform system to solve the problem of lack of real-time interaction in teaching process.

In the automatic information platform system, we can set the four main modules: the first module is the optimized course forum, for the general problem, if there had been a similar question, the system will automatically retrieve the original answer and reply to the students’ question, if there isn’t a question like that, the system will directly sent the question to the teacher terminal at real time through the platform and the teacher, through the system, can directly make a written answer and feedback to the student answering platform and student mobile phone terminal; the second module is the special platform for questions of practice operation where video recorded to explain the key point and the nodes of the practice course; the third module is real time questions and answers class, when the accumulation of questions reaches a certain size, the system will carry out the teacher - Student Video answering activities in a specific time, of which face to face answering form lead students to solve puzzles, help students to solve the problem in real-time; the fourth module is a platform for the communication of students, modern teaching theory believes that while the communication between teachers and students is very important, the interaction between students and students cannot be ignored, so the automation information platform system set up a communication platform for students to exchange learning experience and learning gains freely so as to break through the previous limitation of after-school communication.

(3) Explore the diversification method and establishing the teaching model of independent inquiry and cooperative learning

While the college emphasize on the optimization of the teaching content and teaching process of the excellent course of computer network, the design of teaching methods can also not be ignored. Teaching method is an important tool for teachers to guide students to study, and it is the core of teaching design. According to modern teaching theory, the trend of the diversified development of network teaching is inevitable, and a single teaching model is difficult to meet the educational needs of individualized education. Sticking to a single teaching form is not only difficult to improve the teaching effect of knowledge, but also may inhibit the vitality of students’ proactivity of independent thinking. Therefore, the design of teaching methods should be bold in innovation, change the cramming method of teaching in the past, make full
use of the diversity of computer information technology and network media, make a combined use of multi-dimensional network teaching such as real-time interactive teaching, video teaching, audio teaching, teaching materials and etc, adopt the independent inquiry method, task-based teaching method, the main scene method, interactive and cooperative learning method, to mobilize the enthusiasm of students and enhance teaching effect, improve students' learning efficiency.

In these various forms of teaching models and teaching methods, the most important thing is to build a teaching mode coexisting with independent inquiry and cooperative learning, so as to achieve individualized and collaborative teaching. Because of the difference of individual, it is helpful to solve the problem of teaching quality decline by taking different teaching modes according to the teaching content in time. The key point of establishing the teaching mode combined independent inquiry with cooperative learning is to distinguish which teaching content is suitable for independent inquiry teaching mode, and which teaching content is suitable for cooperative learning mode. From the perspective of practice, teachers generally think that computer basic knowledge which is suitable for layout independent tasks can impel students to form a knowledge structure system through their own learning ability and knowledge of the basic theory, which is convenient for students to develop independent thinking habits and ability to effectively analysis and solve problems. Cooperative learning is usually more suitable for computer specialized knowledge, because the computer project involves a wide range of knowledge which often requires team members to play their respective advantages to contribute to the completion of the task, through the implementation of team task, students can experience the value of equal cooperation and individual value among the team, so that students can actively communicate with the surrounding to reach the goal of "teaching" and "learning". By implementing the coexisting teaching mode of independent inquiry and cooperative learning, students' independent thinking ability and teamwork ability have been improved. The depth and breadth of learning have also been expanded, and the effect of network teaching has been improved.

(4) Implement the guiding teaching and designing a perfect feedback system for teaching evaluation

The feedback of teaching evaluation not only affects the teaching effect of the teachers and the learning efficiency, but also is an important index to evaluate the quality of the teaching work in an all-round way. In order to improve the quality of teaching and keep improve the teaching effect, the most important thing is to design and improve the feedback system of teaching evaluation.

Designing a perfect feedback system of teaching evaluation should pay attention to the completeness of the relationship between the subject and the object. The main body of teaching and learning includes teachers and students. Therefore, the evaluation of relationship between subject and object should include teachers' diagnostic evaluation for students study, self-assessment and mutual evaluation of students, and feedback from students to teachers' teaching effect. At the same time, in
the design process of the teaching evaluation feedback system, it also should ensure
the multi angle evaluation system, the evaluation of teachers to students should also
focus on the evaluation of collaborative tasks and evaluation of learning enthusiasm in
addition to homework and examination, and students' self-assessment and peer
assessment should reflect the heavy side on the improvement of learning efficiency
and learning initiative and the shaping of the learning ability of the students. Students’
evaluation to their teachers should be based on the true feelings of the rationality of
teaching objectives, teaching schedule and teaching content so as to feedback the
teaching effect. Of course, we need to build the evaluation system of the three party
members, such as discipline experts and managers. We should examine the rationality
and scientifically of teaching design from the top level of design, and lead the
teaching direction of computer network excellent courses, so as to ensure the quality
of teaching.

4. Conclusion

From the perspective of practice, there are many problems in the
implementation process of computer network excellent course, which limits the
improvement of teaching quality of computer professional courses, improvement
of teachers' teaching effect and enhancement of students' learning efficiency. As
an important way to solve the shortage of teaching resources and ensure the
continuous improvement of teaching quality, the quality of instructional design
directly affects the optimal allocation of teaching resources and the systematic
training of applied talents. In order to solve the problems of teaching content,
teaching process, teaching method and feedback of teaching evaluation, it is
necessary to optimize the teaching design of the excellent course of computer
network systematically. This paper starts from the existing problems of the
computer network courses, systematically analyzes the existing problems of
teaching content, teaching process, teaching methods and teaching evaluation,
and try to put forward some countermeasures to optimize the teaching design:
Focus on transcendental knowledge, design thematic teaching and formulate
practice-oriented teaching content; build an information platform and building
an interactive channel for the subject of learning activities; Explore the
diversification method and establishing the teaching model of independent
inquiry and cooperative learning and implement the guiding teaching and
designing a perfect feedback system for teaching evaluation.

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