

Analysis of Higher Education Computer Course Teaching System Reform in the New Engineering Course

Chen Chao

Jiangsu Vocational Institute of Architectural Technology, Xuzhou Jiangsu 221116, China

ABSTRACT. *The current social and economic development has undergone tremendous changes in industrial adjustment. China's industrialization professional development and upgrading have crossed and deeply integrated. However, under the current development situation, the traditional engineering education methods and methods have not been able to adapt to them. Current economic development needs. In the teaching of engineering colleges and universities, computer teaching is the curriculum basis for all engineering majors. Therefore, under the new engineering education background, the computer curriculum system needs to continuously reform the computer teaching curriculum system. In the end, it can maximize the knowledge structure of college students and effectively improve the contemporary Quality of engineering talents.*

KEYWORDS: *New engineering; Higher education; Computer teaching; Reform*

1. Introduction

Foreword: Since the introduction of the new engineering teaching concept, it has been highly valued by universities in the country. Many related scholars and experts have devoted themselves to the framework of the new engineering discipline and concentrated their efforts on the computer teaching system. Actively integrate the teaching concept of "new engineering" in the specific operation and basic knowledge of computer courses. Intelligence and informationization are the new development directions and channels of the current "new engineering" teaching reform. With the rapid development of intelligent technologies such as "artificial intelligence", "Internet of Things", and "big data", universities in the country need to urgently solve the problem of "new engineering" construction.

2. Accelerating the Pace of Computer System Teaching Reform Based on the Scientific Concept of "New Engineering"

The so-called "new engineering subjects" specifically include: new systems, new quality, new models, new structures, and new concepts. Effectively combined with the current construction and development needs of computer majors, scientifically establish computer courses systems and knowledge structures for engineering majors. Scientifically required computer science Curriculum and elective courses, rationally set the knowledge structure of computer courses, actively open the basic experiments and innovative experiments of computer majors, scientifically add computer classroom lecture content and MOOC learning and other optimized teaching content. While actively adapting to the development needs of new engineering teaching reform, it provides important technical learning foundations for new engineering.

3. Effective Measures to Effectively Strengthen the Reform of the Computer Course System

3.1 Actively Improve and Establish the Computer Course System Construction under the Background of New Engineering

In order to successfully and scientifically complete the computer course system construction in the new engineering background, the setting of computer compulsory courses must always be based on the needs of the construction of professional courses. Actively broaden the students' computer specialty learning horizons, while continuing to deepen the latest computer specialty Learning of theoretical and practical knowledge, continuously strengthening the exchange of computer professional teaching in colleges and universities with cutting-edge computer scientific research theories, and effectively training computer-based big data industries, intelligent

control, and intelligent manufacturing to continue to cultivate high-capacity and High-tech talent.

3.2 Actively Build a New Computer Teaching Model under the Guidance of the New Engineering Concept

Under the guidance of the new engineering concept, actively use MOOC online assisted teaching methods based on real-world application cases and heuristic teaching methods, based on information and network, with classroom teaching as the main teaching strategy, practical cases and experimental courses To guide the teaching, actively select a series of operational content such as intelligent control, hardware development, software development and programming, and effectively improve students' ability to adapt and solve problems in computer major learning through teaching examples. The following reform strategies can be started.

3.2.1 Effective Application of Heuristic Teaching Concepts

Once the problem setting is involved in computer teaching, computer professional teachers can use heuristic teaching methods and methods to effectively stimulate students' learning interest through the problem-driven teaching method, and gradually master the theoretical knowledge and The content of computer core knowledge, in addition, the practical connection and application of computer engineering practical knowledge and theoretical knowledge must be strengthened. With the application of heuristic teaching strategies, the design of related issues and teaching knowledge points must not only meet the requirements of teaching curriculum standards, but also have the requirements to effectively stimulate students' learning interest.

3.2.2 Effectively Using School Computer Experimental Platform to Strengthen Case Course Demonstration Teaching

Compared with the teaching of other disciplines, the teaching of computer major itself has a strong practicality, and the support and application of practical teaching cannot be separated from the teaching of these courses. Therefore, case teaching has an important role in promoting computer teaching. Within the limited time requirements of teaching classrooms, various colleges and universities must rationally design teaching cases, application test equipment and platforms, which can be specifically divided into the design and application of the following two teaching cases: First, the application of virtual teaching cases in computer Many software development in the teaching course requires the completion of virtual case preparation in the laboratory. Students complete the use and understanding of model theory and algorithms in the preparation and application of virtual cases. Second, actively apply actual cases to computer software. The practical case teaching is the focus of application. Combining the cases of engineering production and industry application, it effectively improves students' knowledge and learning of computer expertise, and uses practical problems to improve the theoretical knowledge of computer courses for the development and guidance of practical engineering application. According to the learning needs of students in actual cases, gradually complete the experimental platform to improve and perfect the work.

3.2.3 Strengthening Mooc-Assisted Teaching Application Strategies

With the rapid development of contemporary informatization and networking, the era of network informatization and certain conveniences, people must also learn to use online MOOC to complete computer-assisted teaching to effectively improve the teaching effect of computer science. Actively improve computer interface technology and microcomputer principles, and use computer networks and computer C language to gradually improve the construction of computer professional courses and teaching platforms. You can arrange a large number of theoretical knowledge and interactive tasks for students according to the corresponding courses, which can effectively improve the quality of learning. , And can strengthen the discussion and interaction between teachers and students and between students.

3.2.4 Actively Improve the Construction of Computer Engineering Teaching Platform for New Engineering Subjects

Based on the positioning and goal recognition of computer engineering teaching in new engineering, in accordance with the current situation and development needs of computer teaching, it effectively integrates the application of computers in the current production fields and the development of science and technology. The application of science and technology requires actively designing a computer course teaching platform with a strong professional training objective. This can not only meet the learning needs of students at different levels, but also provide more professional engineering computer teaching support for all students. Actively construct computer software, computer network and computer hardware structure teaching content, and finally build a set

of computer professional teaching courses with a complete system.

4. Conclusion

In short, in the context of the new engineering education, computer education in higher education must be continuously reformed, combined with the level and characteristics of computer applications, to strengthen the practice and reform of computer basic teaching courses, and actively use computer-assisted resources and network resources to improve teaching models. Stimulate students' problem consciousness and interest in computer learning. Through the built-in online MOOC teaching mode and the mixed mode of physical classroom teaching, the computer skills and level of students in engineering colleges can be effectively improved.

References

- [1] Qiu Guolu (2019). Study on the quality of practical teaching in applied colleges. Nanchang University.
- [2] Tang Yongjun, Cheng Guohui (2019). Analysis of Current Situation of Computer Education in Colleges and Universities and Exploration of Reform Paths. *Modern Salt Chemical Industry*, vol.46, no.1, pp.147-148.
- [3] Zhao Yonghua, Li Zhihui, Jia Hongfei (2018). Reform of Computer Course Teaching System in Higher Education under the Background of New Engineering. *Education & Teaching Forum*, no.27, pp.254-255.
- [4] Cheng Cong, Chen Guiying (2016). Discussion on Computer Teaching Forms and Content Reform in Higher Education. *Sci-Tech Information*, vol.14, no.24, pp.113-115.
- [5] Niu Xiaoqiang (2016). The Teaching Reform of Computer Specialty in Higher Vocational Education. *China Off-School Education*, no.30, pp.104-107.