

# Research on the Reform of Traditional University Teaching by SPOC

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**Keywords:** Computer; Computer Basic Course; Education; SPOC; Mixed Teaching Mode

**Abstract.** The computer is one of the most important inventions in human history. Learning the use of computers is becoming increasingly important. The development of demand requires that university computer basic course be used as a basic course for learning. The teaching of university computer courses should be aimed at application, focusing on practice, and improving the information literacy of College students. This paper analyzes some problems existing in the current computer basic education, and tries to carry out the design of curriculum reform, in order to better meet the social and professional requirements for college students in the basic knowledge and skills of computer.

## Introduction

The birth of computer is one of the greatest scientific achievements of the 20th century, which liberates human beings from repetitive or fixed-mode mental work, which makes the whole intelligence of mankind gain unprecedented tremendous development [1].

Computer basic education in Colleges and universities is an important part of computer popularization in the whole society. It affects the quality of talent training in China, and affects the prospect of computer technology application in various fields. The National College of Computer Basic Education Research Institute was formally established. The Research Institute is committed to studying the laws of computer basic education, summarizing experiences, organizing and exchanging, and effectively promoting the development of computer basic education [2].

## Current Situation of Computer Basic Education

The traditional "University computer" course examination has the following drawbacks.

Neglecting practical operation and emphasizing knowledge memory. Make the original practice, interesting, creative operation becomes boring.

The traditional examination mode severely restricts the students' initiative, practicality and creativity, which is not conducive to the cultivation of college students. Therefore, we need to establish a perfect and advanced teaching evaluation system [3].

There is a contradiction between the stability of curriculum content and the development of computer science.

The teaching method is old; it is difficult to arouse students' enthusiasm.

## Reform and practice of basic computer courses in universities

**The Orientation of the Course.** To set up computer courses in non-computer majors in colleges and universities, and to make computer education to all college students in order to distinguish it from computer professional education, the basic knowledge of computer science should be the same as mathematics and physics knowledge. The research work of computer professional education is comparatively mature. In the face of more than 97% of all college students of non-computer majors, computer basic education has become an important part of higher education [4]. After nearly 30 years of exploration and practice, China's computer basic education from scratch, from point to face, from a few science and engineering major in the practice, development to all colleges and universities of the non-computer majors are generally set up related courses. The computer basic education is different from

the computer specialty, its task is not to train the computer expert or the scientific researcher who specializes in the computer theory research, but trains the compound talented person who grasps each specialized domain knowledge, also can skillfully use the computer, namely the computer application talented person in all walks of life.

**The Design of Teaching Reform.** At present, many experts and scholars in our country have done many researches in teaching content, teaching methods and so on, and put forward many teaching ideas and reform programs. Including the reform of curriculum system, the reform of teaching content and teaching methods, autonomous learning, driving teaching, level teaching, open teaching and so on.

However, different types of colleges and universities, regardless of the concept of running a school, or the quality of students there is a great difference. Must combine own school-running idea and the actual condition, has formulated the reform plan which suits own development more.

For professional services, improve students' enthusiasm for learning. Under the prerequisite of the essential basic theory and knowledge of learning unity, according to the subject and the specialty, the teaching content of the computer Foundation should be differentiated. For example, the science and technology focus on the application of multimedia tools, focusing on multimedia computer skills training, relative weakening algorithm, software engineering and other content learning, can make voluntary learning and mastery, but for art students, focus on office automation software, multimedia software, such as learning and applications.

**Mapping Testing.** In the classification, the 2017-class students in this college have a total of 31 majors. Select 3 Majors (Business Administration, Chinese language literature, art majors) to conduct a test to understand the specific situation of the students' current computer level. The content and difficulty of the test are basically equivalent to the requirements of the course, including the choice questions, the blanks and the operation questions, the knowledge points of the topics include operating system operation, the basic operation of the Office automation software, the network and the multimedia basic knowledge and so on. To understand the basic knowledge and skills of the current students, and to guide the curriculum setting of different majors.

According to the literature and philosophy teaching students to set up the courseware design, office automation advanced applications, such as the major basic courses. Art students (art design category) to set up a digital media art introduction, multimedia technology applications, computer graphics and image Foundation, Design art Programming foundation, such as the main basic courses. Art students (art design category) to set up a computer audio editing, multi-media music courseware design, computer sound synthesis and other major basic courses.

**Pilot Class.** According to the three major series of the pilot of the common characteristics and requirements of the selection of a certain representative of the curriculum. Schools can be selected according to their own needs and the actual situation, but also the contents of these courses appropriate combination to build a new liberal arts series of computer small class. Optional courses are as follows: Computer assembly and maintenance, multimedia technology and application, computer network technology and application, Internet application, Web design and website Construction Foundation, dynamic web Design, Internet Technology application, information retrieval and utilization, e-government application, Electronic Commerce Application Networking Introduction, Database Foundation and application, database and program design and program design and application.

**The Teaching Mode of Combining MOOC with SPOC.** At present, the evaluation system of the students in colleges and universities is the main index of the students' evaluation, such as the written examination and the score, which undoubtedly constrains and restricts the development of students' innovative ability. In order to build up a new student evaluation system, the new evaluation system can inspire students' creative desire and arouse students' creative potential, and make them better into the innovation activities.

The whole teaching research process takes the SPOC teaching mode as the guiding ideology, and adopts the teaching mode of combining MOOC and SPOC [5]. The whole teaching process can be

divided into three parts: before the classroom teaching (the line before class teaching), classroom teaching (teaching in line) and after class teaching.

In the course of the assessment, the process evaluation (including attendance, classroom performance, homework, stage test, etc.) and summative evaluation (final written examination and on-machine test), in order to motivate students to pay more attention to the actual operation and the quality of peacetime study. In the assessment of elective course, combining the characteristics of curriculum, open examination is applied to the application.

SPOC inherits the characteristics of MOOC teaching design, content design, learning style and resource integration, in the process of localization, strengthens the teacher's teaching means, student's throughput, student's participation degree [6]. SPOC the introduction of the traditional classroom in colleges and universities, the use of mixed teaching mode is not only beneficial to share MOOC resources [7]. But also to give full play to the characteristics of SPOC small-audience online learning, on-line and offline mixed teaching to improve teaching quality [8].

## Conclusion

In recent years, our school has been trying to try online and offline teaching practice, and the research department takes the university computer Basic course as an example, carries on the related teaching study, emphatically carries on the online teaching resources construction and the overturn classroom teaching practice work. Greatly improve the student's participation, enthusiasm, and achieved a better teaching effect. SPOC teaching mode is the organic integration of MOOC and classroom teaching, and it is the development mode of teaching reform and innovation in colleges and universities. In view of different courses, different teaching objects and different contents, the process of SPOC teaching reform practice is not the same.

## Acknowledgements

Fund Project: The education of Jilin province "in 13th Five-Year" plan 2016 annual key project (Project No. ZD16071). Jilin Provincial Higher Education Association 2016 annual higher education research subject "Based on SPOC" Access Database Technology and Application "Mixed Teaching Mode" (Project No. JGJX2016B27) results. 2016 Jilin higher education reform research project "Based on MOOC+SPOC Flipped Classroom Teaching Mode" research results.

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