

# Practical Teaching Research of Computer Public Course Serving Professional Courses

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**Keywords:** Computer Public Course; Professional Course; Practical Teaching; Service

**Abstract:** With the diversity and complexity of the educated, the common computer course under the traditional teaching mode is no longer sufficient to meet the needs of the new situation. Based on the practical teaching of computer public courses, this paper analyses the practical business needs of various majors, and carries out targeted teaching in order to increase students' learning enthusiasm and purpose.

## 1. Introduction

Computer public course is a compulsory course for non-computer majors in Colleges and universities, because all enterprises in all fields of society need computer professionals, computer public course has become the basis and focus of computer teaching. Computer public course teaching is considered to be the basic skills to improve the quality and ability of college students and adapt to social development. Such courses coexist with knowledge, practicality and operability. It is not only an important part of general education in universities, but also a basic education for cultivating undergraduates to solve professional problems with Computational Thinking and become compound talents. However, there are still some problems in the teaching content and teaching methods of the public computer courses currently offered in colleges and universities. This restricts the improvement of teaching quality, and students' computer skills cannot be fully reflected. Therefore, we have reformed the teaching of public computer courses in universities in a hierarchical and modular way. Taking our school as an example, starting from the employment problem of college graduates, we will transform the public computer course into a new mode focusing on practical ability and serving various professional fields. Furthermore, it can realize the integration of students' computer operation skills with social applications and cultivate students' innovation ability.

## 2. The Current Situation of Computer Common Course Teaching

### 2.1. Advantages of Common Computer Teaching in Colleges and Universities

Computer is the fastest developing subject in today's society. However, there are many knowledge points covered by the computer public course in Colleges and universities. This makes the rich curriculum content receive extensive attention. Employees are increasingly pursuing the convenience brought by science and technology in their work and life. This has aroused the interest of college students in learning computer knowledge and increased their enthusiasm in learning computer technology. As a result, in recent years, the input of public computer courses has gradually expanded. The state has also strongly encouraged the development of public computer courses in colleges and universities, increased the investment in computer education, continuously improved the construction of computer software and hardware, increased the opportunities for computer operation, fully integrated theory with practice, and improved the students' computer operation ability.

### 2.2. Problems in the Teaching of Computer Public Courses in Colleges and Universities

However, in today's era of super-rapid development of computer technology, the content of

computer public courses in Colleges and universities is always lagging behind. Taking textbooks as an example, the same version of textbooks is usually used for many years. Therefore, the backwardness of teaching content hinders the smooth development of computer public courses. In addition, computer public courses are not well integrated with students' majors. The main object of computer public course is non-computer majors. Computer teachers do not know much about students' majors, which results in that the computer knowledge they teach can not serve their majors, and it is difficult to play the role of computers. At the same time, it conceals the significance of the existence of public computer courses, making it difficult for students to apply computer technology to their work after graduation. In addition, the class hours of public computer courses are gradually shortened, and the development speed of computer technology cannot be kept up with, which makes students' learning of computers only superficial and difficult to learn useful knowledge. At the same time, not all professional courses can find a starting point to combine with the public computer courses, which leads to the public computer teaching still in a very awkward position.

### 3. Comparisons and Analysis of Computer Operating Level in Different Specialties

In 2018, our computer teaching team designed a questionnaire for freshmen of various majors in our foreign language colleges and tested the students' computer proficiency at the beginning of the semester. The survey results show that the proportions of editing documents, processing data, searching data online, chatting, playing games and sending and receiving emails are 18%, 80%, 40%, 68% and 21% respectively. The results of the computer level test are shown in Table -1. From the above data results, we can see that it is unsatisfactory to attach importance to information technology education in middle schools in China. Most students think that their secondary schools do not attach importance to information technology education, especially in remote mountainous areas and backward townships. Although the Ministry of Education has already stipulated that information technology education should be popularized, the basic computer course is not the subject of college entrance examination. As a result, many middle schools have greatly reduced the hours of computer courses, even without designing computer courses. It also leads to the difference of computer level among freshmen for various reasons.

Table 1 Proportion of Computer Common Software Used by Majors

Non-computer major	Proportion of students who can use office software	Proportion of students who can use multimedia applications
Minor language major	15%	20%
Bilingual major	18%	15%
Professional management	25%	8%
Major in economics and trade	33%	10%
Major in editing and publishing	38%	35%
Literature major	29%	5%

In addition, in today's society, different professions and different fields use computers to accomplish different tasks. For example, secretarial work mainly uses computers to complete daily office work such as word processing and information transmission. Another example is the editing and publishing industry, which uses computers to process various graphics and images and uses more multimedia application software. However, the public computer course offered in colleges and universities focuses on the study of the knowledge of the computer itself, but ignores its practical application. In addition, the lagging behind of teaching content makes what students have learned unable to serve their majors well, which reduces students' interest in learning computers and also restricts the cultivation of students' innovative ability.

## **4. Reform Plan of Public Computer Courses Service and Specialized Courses**

### **4.1. Teachers of public computer courses and teachers of specialized courses jointly participate in the formulation of the teaching syllabus of public computer courses, revise the personnel training plan, and specify the direction of service for specialized courses**

In the professional-oriented curriculum system of computer public courses, the teaching content of computer public courses involves computer knowledge required by non-computer majors. This objectively requires teachers of public computer courses to communicate and cooperate more with teachers of specialized courses to understand the knowledge and teaching objectives of other specialized fields. When revising the syllabus of computer public course, professional leaders or key teachers are invited to participate in the discussion, put forward reasonable suggestions and opinions, fully understand the requirements of students' computer application ability in various majors, and achieve consistency between the contents related to professional knowledge and the teaching of professional knowledge. Subjectively, public computer teachers should actively seek opportunities for scientific research with professional teachers, and explore research directions and objectives for professional courses.

### **4.2. Computer public courses should emphasize practicality and flexibility in order to cultivate students' professional skills.**

Application-oriented, learning-to-use is the goal of computer public courses. Now the starting point of College Students' computer ability is constantly improving. Many children have taken computer courses in primary and secondary schools. Some basic operations of computers are not unfamiliar to them at all. But their knowledge of basic computer knowledge is half-baked. To a certain extent, this has increased the difficulty of teaching public course teachers in Colleges and universities. For example, students learn how to use Excel spreadsheet software in school, but they don't know how to apply it to practice after graduation. Therefore, we break through the original teaching mode around the curriculum objectives, formulate new teaching contents according to students' abilities, pay attention to the cultivation of professional skills, make full use of case teaching, and design different application cases for different majors. Through solving practical problems, introduce basic concepts and inductive methods, and finally return to the problems and use the skills just learned to solve various similar problems. As a result, the boundary between public computer courses and specialties has been diluted, the integration of knowledge has been realized, the pertinence and practicability of public computer courses have been strengthened, and better service for specialties has been provided.

### **4.3. Optimize the selection of teaching materials and pay attention to the comprehensiveness of curriculum content, so as to improve the comprehensive professional quality of students.**

In the teaching of common computer courses, the teaching materials used by various colleges and universities vary greatly. However, even though the teaching materials are different, their contents are mostly the teaching contents of computer major. For example, learning Access database management software, its teaching material content is mainly the creation and use of database files, data Tables, queries, reports. However, why do you want to create databases and data Tables, what is the role of creating data queries, what fields of work need to create reports, etc. These are not reflected in the teaching materials and there is no suitable case to explain them. Therefore, the teaching materials selected for each major must not become the simplified version of the teaching materials for the computer major. We need to choose the main way that is suitable for the characteristics of the students, so that students can get the course knowledge through the teaching materials. Therefore, the selection of teaching materials should be considered to be scientific, systematic, inspiring and legible, and to meet the characteristics of students. At the same time, the content of the textbook must be constantly updated, maintaining its advanced nature and focusing on the comprehensiveness of the content. When necessary, public class teachers can participate in on-the-job training, go deep into the enterprise, and organize and design examples in social production and life. Write textbooks and handouts that are in line with professional

characteristics, and integrate the knowledge content of different disciplines to cultivate a group of interdisciplinary and expanding talents.

#### **4.4. Hierarchical management to cultivate the learning ability of students at different levels and stimulate their individuality potential**

Teachers should fully recognize the differences in computer levels between different students and adopt a stratified approach in the teaching process. Students who are interested in computers should mobilize their enthusiasm, initiative and creativity to encourage them to participate in various computer competitions. It also explores the practical application of computer software in competition events so that basic computer teaching can truly become a tool course for non-computer majors. Students who are not interested in computers should be stratified in their homework so as to make the homework diversified and personalized so that students with poor basic skills can first master basic computer operation skills. Then use what you have learned to solve practical problems related to yourself, so as to promote the all-round development of each student's personality potential. However, it should be noted that for this group of students, we should proceed step by step and do not rush for success.

#### **4.5. Correct students' thinking and emphasize the importance of public lessons**

With the rapid development of computer technology today, the support of computer skills is indispensable to cultivate excellent college students. Therefore, only by reforming the teaching of common computer courses can students' computer level be continuously improved. So, first of all, we should pay enough attention to the teaching of public computer courses ideologically, correctly guide and treat them differently, so that students can understand that mastering computer skills has become one of the necessary skills to meet the needs of social development. Every industry and every field needs people who can operate computers skillfully. Secondly, teachers should combine computer teaching with professional skills training and various skills competitions in their daily teaching work so that students can realize the importance of computer knowledge and arouse their interest in learning.

### **5. Difficulties in the Teaching of Specialized Public Computer Courses**

The professional-oriented reform of the curriculum system of public computer courses is a new type of basic computer teaching system in universities, involving the academic affairs department, computer institute and other departments, and there is no practical experience in the actual operation of the reform. For example, the definition of computer application ability, the arrangement of teachers, the teaching design, the grasp of content depth, the number of class hours and so on for different majors. All of these will face many difficulties, which need not only the attention of leaders at all levels, but also the mutual understanding, communication and research between teachers of computer public courses and teachers of professional courses. Therefore, in order to achieve better teaching effect, we need to constantly improve and enrich the application of computer technology in practice. The application of computer technology combined with specific industries should be the research direction of computer teaching in Colleges and universities.

### **6. Conclusions**

In a word, it is feasible to reform the teaching of computer public course in order to serve the specialty. It has certain practical significance to promote the improvement of teaching quality. With the diversification and complexity of the educated objects, the computer skills required by different majors are different. Therefore, higher requirements are put forward for basic computer teaching. Computer teachers should continuously tap the demand for basic computer teaching in other professional knowledge, take students as the center, emphasize its practicality, and enable students to obtain more professional information in computer learning and use it comprehensively. To make the computer application ability get more comprehensive and reasonable guidance and training, and

generally improve the computer skills of non-computer major students. Then the students' practical ability, self-study ability and innovation ability are trained, and compound and professional talents with strong computer application ability and high comprehensive quality are cultivated.

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