

# Teaching Reform and Practice of “C Language Programming Fundamentals”

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**Abstract:** Since my country entered the era of Internet economy, the scale of the software industry is gradually expanding, and programming language, as an important tool and idea for software development, is a necessary skill for every development practitioner. Among them, C language, as the basic language of computer software programming, is also an important basic course for cultivating students' computer application ability in science and engineering majors in colleges and universities. This paper mainly studies the teaching reform of C language programming courses and proposes corresponding optimization measures, so as to lay a solid foundation for the continuous improvement of students' learning quality of C language courses and the continuous strengthening of programming ability.

**Keywords:** C Language; Teaching Reform; Teaching Practice

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## Introduction

As a high-level computer language in the field of application and programming, C language is a programming skill that every computer student must master. Through the study of this course, students can not only master the idea of C language programming, the foundation of programming and the process of programming, but also master the method of problem analysis through language application, improve the level of problem solving, and provide students with relevant fields for the next stage. A solid foundation for programming learning. At present, the national education has made clear indicators for the reform of teaching in colleges and universities. The relevant programming courses headed by C language programming need to improve the quality and efficiency of teaching through continuous innovation, so that students can carry out C programming in a more active state in the learning process. Self-directed learning of language programming. This paper mainly solves the problems in the teaching reform, and urges teachers to use new teaching methods to improve the teaching content of this programming language course, so as to meet the students' professional learning needs.

## 1. The significance of the teaching reform of “C language programming foundation”

“Basics of C Language Programming” is the first programming language course for students majoring in medical information engineering in our school. So as to accumulate certain experience and knowledge for the next stage of relevant language learning and software project development. However, with the rapid development of the Internet industry, the traditional teaching content and steps of basic language programming can no longer meet the needs of industry development in the current era. make changes. By improving teaching methods, perfecting teaching systems, and innovating teaching content, we will cultivate more programming talents, provide more high-quality employees for the society and related software development companies, and further promote the pace of my country's development in this field, thereby enhancing its competitiveness with foreign countries. The strength of high-tech enterprise competition.

## **2. Summary of the teaching reform of “Basics of C Language Programming”**

### **2.1 Students lack interest in computer programming learning**

As an important element to guide students to improve their enthusiasm for learning, interest will greatly affect the quality and effectiveness of students' learning. Many students who choose computer program development are only interested in the computer as a multimedia device. With the deepening of teaching, they find that the overall difficulty of learning C language is relatively high, so they give up the study of this course, which leads to the efficiency of students' C language learning. further decline.

The main reason for this situation is that students have no knowledge of the subject and lack of interest in related subjects before entering the major of computer science in colleges and universities. As the gap between students of different professional qualities further increases, students with poor academic performance will further reduce their confidence in professional courses due to the lack of learning interest, causing students to fall into a vicious circle of learning and further reducing students' interest in learning, so that students give up themselves in the next stage of learning the basics of computer C language programming, unable to develop their potential.

### **2.2 The C language teaching method is single, and the teaching content is boring**

Although the country has made clear indicators for the reform of professional course teaching in the field of college education, under the influence of traditional educational ideas, most computer basic language teachers in colleges and universities only focus on teaching content and teaching steps in the actual teaching process. Certain improvements have been made, but in terms of teaching methods, traditional indoctrination education ideas are still used to educate and guide students. In the actual teaching process, teachers still use scripted methods to describe the content of professional courses, which will not only reduce students' interest in learning, but also , it will also cause students to fail to understand the content of what the teacher is talking about under the overly specialized explanation.

The main reason for this situation is that teachers pay too much attention to the main body of teaching in the teaching process, and are unwilling to let students learn autonomously, emphasizing the rapid completion of teaching tasks. There is no analysis and discussion on various problems that students may encounter in the process of learning “C Language Programming”. When students encounter problems, they can only ask teachers to answer them one by one, which further increases students' dependence on teachers. Once they encounter related problems in the actual work process, it is difficult to solve them independently, which will have an adverse impact on students' programming development and personal development in the next stage.

### **2.3 The basic design of C language programming for students is too theoretical**

As we all know, programming language teaching is a course that attaches great importance to students' practice, but at this stage, most teachers in the teaching field of colleges and universities only pay attention to the explanation of students' programming theoretical knowledge. programming operation. This kind of learning method like a cat and a tiger will make students reduce the frequency of thinking and reduce the opportunity to solve problems on their own. Once separated from the guidance of teachers, it is likely to fall into a situation of confusion and inability to operate, which will have an extremely adverse impact on the development of students' personal ability in the future.

The main reason for this is that students do not pay enough attention to the course and do not work with social enterprises, resulting in students lacking programming work and programming project experience. Once students enter the society, they find that there is a big gap between actual work and school teaching, not only will increase the cost of students' learning, but also will make students' self-confidence suffer.

### **3. Teaching reform and optimization of “C Language Programming Fundamentals”**

#### **3.1 Stimulate students’ interest in learning and improve students’ enthusiasm for learning**

In order for students to quickly grasp the content of the basic course of C language programming, they must stimulate their enthusiasm for learning, improve their interest in learning, and make students pay attention to autonomous learning, autonomous problem exploration and autonomous problem solving in the learning process. This can not only reduce the teaching pressure of teachers, but also help students develop the habit of independent thinking in the learning process, which will play a certain role in promoting students’ work development in the subsequent stages and solving real programming problems.

In order to achieve this goal, teachers should pay attention to the improvement of teaching content, and integrate more life elements into the actual teaching process to make it closer to the life of students. On this basis, put forward different problems for students to solve, and use competitions to mobilize students’ enthusiasm for learning, so that students can complete the questions given by teachers with the fastest speed and high quality in the learning process, and maximize the C language programming. The effect of basic teaching.

#### **3.2 Improve teaching methods and make teaching more interesting**

In the current teaching process of C language programming in colleges and universities, the teaching methods of teachers will greatly affect the learning effect of students. Teachers need to change their teaching thinking and return the dominant position of the classroom to students, so that students can give full play to their abilities in the classroom, improve their thinking level, so that they can solve various programming problems in a timely and effective manner, and exercise their own skills.

Teachers should fully play an auxiliary role in the teaching process of professional courses. Through the effective application of different innovative teaching methods such as group teaching method, layered teaching method and game teaching method, they should fully mobilize the interest of students. According to the students’ learning quality and professional level arrangement of different teaching contents and adjustment of teaching plans, so that each student can achieve common progress, common development, and common improvement of their programming level in the learning process.

#### **3.3 Carry out school-enterprise cooperative teaching to help students accumulate programming project experience**

In order to ensure that students can quickly connect to relevant programming work after graduation, schools should connect with relevant programming companies, and through school-enterprise cooperative teaching activities, introduce corporate employees with actual programming work experience, and combine the teaching work of relevant professional teachers in the school. During the learning process, students can improve their comprehensive quality through the integration of theory and practice, and lay a solid foundation for students to quickly enter the working state and accumulate programming project experience in the next stage.

To this end, the school needs to select excellent enterprises, establish cooperative teaching relationships with them with the help of the regional government, hire enterprise software engineers with teaching experience to educate and guide professional students, improve students’ comprehensive quality of programming, strengthen their programming ability, and introduce simple enterprise development projects for students to practice, so as to help students accumulate work experience and increase employment rate.

### **4. Conclusion**

To sum up, in order to ensure the further manifestation of the teaching reform and practical effect of “C Language Programming Fundamentals”, teachers need to stimulate students’ interest in learning, improve students’ learning enthusiasm, improve teaching methods, and improve teaching fun, carrying out school-enterprise cooperative teaching, helping students to accumulate programming project experience and other measures are effectively applied, improving the quality of teaching, and laying a good foundation for the enhancement of students’ comprehensive programming quality and personal level in the next stage.

## References

- [1] Sun X. Teaching reform and practice of “C Language Programming” based on PTA platform. *Journal of Shenyang Normal University (Natural Science Edition)* 2020; 38(04): 377-380.
- [2] Ge X. Teaching reform and practice of modular design based on Micro-lessons——Take “C Language Programming” as an example. *Computer Knowledge and Technology: Academic Edition* 2020; 16(24): 3.
- [3] Ma X. Teaching reform and practice of “C Language Programming” in application-oriented universities: Taking Hulunbuir University as an example. *Journal of Hulunbuir University* 2021; 29(06): 64-68.