

The Practical Application of Multimedia Teaching in the Course of C Programming

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Abstract

With the rapid development of computer and communication technology, multimedia has become a modern teaching method in classroom. This paper based on the necessity of using multimedia teaching in the course of C programming, explores the high quality electronic courseware making and using reasonable teaching skills in classroom with the purpose of full playing multimedia advantages and improving teaching quality. The experience and methods presented in this article have achieved good results in the teaching practice of this course and have been well received by students. It has high reference value for teaching similar courses.

Keywords

Multimedia Teaching; Microcomputer Principle and Programming; Courseware Making.

1. Introduction

The 21st century is an era of information and networking. With the rapid development of computers and information technology, computer multimedia technology has penetrated into all aspects of our lives, such as learning, and office work. Multimedia teaching is the application of computer multimedia technology to classroom teaching, using text, sound, animation, graphics, images, and other media information to convey information that was previously required in traditional blackboard teaching. It turns static into dynamic, abstract into concrete, allowing students to obtain information through multiple senses and multiple channels such as eyes, ears, hands, brain, and mouth, thereby enhancing students' interest in learning and learning efficiency, and ultimately achieving a multiplier effect[1]. Currently, multimedia teaching has become one of the most commonly used teaching methods in universities. However, can multimedia teaching completely replace traditional blackboard teaching? How to correctly apply multimedia teaching methods, avoid weaknesses, and truly achieve the goal of improving teaching quality and efficiency? From the author's recent practice and experience in using multimedia for the teaching of the course "C Programming", these questions deserve our deep thought and exploration.

2. The Necessity of Introducing Multimedia Teaching into the Course of C Programming

The course "C programming" is a public compulsory course for science and engineering majors in the University, covering the basic syntax, data types, control structures, functions, pointers and other contents of C language, with many knowledge points and scattered. In the past, the course has been taught by traditional blackboard writing, but due to the limitations of blackboard writing, it has not fundamentally alleviated students' learning difficulties. In recent years, with the rapid development of computer technology, the teaching content of this course should be relatively stable and advanced. It is necessary to integrate the emerging new technologies into and update the teaching content. The update and increase of teaching content make the characteristics of this course more prominent, which is difficult for teachers to teach

and students to learn. In order to not only increase the amount of teaching information in the limited classroom teaching time, but also impart the most essential content to students vividly, improve the teaching efficiency and quality, and meet the needs of talent training under the new situation, it is necessary to introduce multimedia teaching into the teaching of this course.

3. The Key to Improving Teaching Efficiency - High Quality Courseware

No matter how good a teacher is, he cannot make bricks without straw. Practice has proved that based on the teaching content, combined with the teaching focus and characteristics of each chapter, using the courseware, the abstract and complex principles are intuitively and clearly displayed in front of students through colorful dynamic pictures, and the boring content is turned into vivid and fascinating, which has produced good teaching effect. Therefore, it is the key and premise to improve the teaching quality and efficiency by using multimedia teaching to make high-quality courseware.

The content of the courseware should not be separated from the textbook, and the course schedule and chapter design in the courseware should be consistent with the textbook as much as possible. A significant advantage of using multimedia teaching is that students do not need to be busy recording a large number of notes, but only need to record or draw key points in the textbook, and can use their main energy to understand and think about the teacher's teaching content and questions. Only when the courseware is consistent with the teaching material can the students find the knowledge points taught by the teacher in the teaching material and mark them as necessary. For the content that they do not understand clearly in class or do not master due to inattention, they can read books and courseware for consolidation and learning after class, so as to cultivate the students' ability of autonomous learning after class. If we blindly pursue the production of courseware effect and ignore the teaching material, or use the ready-made electronic courseware downloaded from the Internet for convenience, although it is similar to the teaching material in important content, it is quite different from the teaching material in chapter arrangement and example enumeration, which makes students feel that the courseware is like another teaching material, but increases the learning burden and difficulties of students[2].

Although the electronic courseware has a large amount of information, it should never be the electronic version of textbooks, nor the lecture notes. The courseware is too complete and detailed, and every sentence in class is displayed on the screen. It is easy for teachers to rely too much on the courseware, resulting in rigid and boring teaching content. High quality courseware design should pay attention to the integrity, and should be able to perfectly reflect the teachers' teaching ideas. The content of the courseware should be clear and focused, and the important knowledge points and key words should be strengthened with special fonts, special colors or special effects, so that the students can remember the key points at a glance when watching the screen, so as to improve the learning efficiency. Making full use of the advantages of multimedia, elaborately making courseware, especially making animation and inserting sound, video and other media information, turning abstraction into concrete, stillness into motion, and dryness into vividness will undoubtedly make the understanding of knowledge difficult and easy, deepen the impression, and stimulate students' enthusiasm and interest in learning[3].

Circulation is an important part of this course. In traditional blackboard writing teaching, teachers need to draw a large number of repeated schematic diagrams on the blackboard, which is time-consuming, laborious and not beautiful enough. The carefully designed electronic courseware can present the whole process of program cycle step by step with the teacher's explanation in front of students, just like the traditional teaching in which teachers draw

pictures on the blackboard while talking, which not only saves a lot of time, but also achieves the good effect of teaching students to master the cycle program design in class.

4. The Fundamental Guarantee of Improving Teaching Efficiency-Teaching Skills

A delicious dish needs carefully selected ingredients and excellent chefs to cook, otherwise it may fall short of success. High quality courseware also requires teachers to pay attention to teaching skills in order to create an efficient and high-quality classroom. Teachers are the guides, organizers and educators in the teaching process. They should grasp the teaching direction and teaching objectives, control the teaching process and guide students to learn scientifically and effectively. Students are the subjects and receivers in teaching. Courseware is just a carrier to impart knowledge. In recent years, students in the process of using multimedia teaching have generally reflected many disadvantages, such as students' blindly watching the screen in the classroom, teachers' blindly operating the machine, the pace is too fast, can't keep up, can't understand, it's better than traditional teaching and so on. The fundamental reason is that teachers rely too much on electronic courseware, concentrate on acting as courseware "operator" and "commentator", abandon the traditional blackboard writing in teaching, and ignore the language and appearance communication with students[4]. In fact, some good lecture skills, methods and valuable experience in traditional teaching in the past can still be integrated into multimedia teaching. As long as we pay attention to the use of classroom teaching skills, we can make good use of live courseware, give full play to the advantages of multimedia teaching, and provide a fundamental guarantee for improving the quality and efficiency of teaching. The author summed up some classroom experience and teaching skills in the practice of multimedia teaching in the course of C programming for reference.

The course of C programming is both important and difficult to learn. First of all, at the beginning of the course, students should fully understand the important position and role of the course in the whole professional learning stage, clarify the learning objectives and requirements of the course, and attract enough attention. Secondly, in class, encouraging students to take the initiative to ask questions, actively participate in classroom teaching, timely expose their ideas, truly express their understanding of the problem, even if it is a wrong understanding of the problem, and teachers' timely answers and help are the key to maintaining students' positive learning attitude. Otherwise, if the doubts in students' minds are not solved, they will enter the next knowledge point, which is easy to cause the "snowball" effect. More and more students do not understand it, fall into learning difficulties, and eventually lose confidence and interest in learning. Classroom rhythm is the soul of a class. Appropriate classroom rhythm can affect students' attention from beginning to end, maintain students' learning enthusiasm, and make classroom teaching relaxed. In the same time, multimedia teaching can provide much more information than traditional teaching, but it is also particularly easy to lead to the fast pace of the classroom, and students do not have enough time to understand, digest, absorb and record the key points, which is the most prominent problem among students in multimedia teaching. In class, the courseware should be played in order to avoid confusing the public; The explanation should be detailed and appropriate, leaving students time to sketch in the book or record the key points in the notebook; Pay attention to the students' reflection, carefully observe the students' state, ask appropriate questions, and leave space and time for students to think; Arrange classroom training to mobilize students' hands and brains; Do not rely too much on electronic courseware and discard the traditional blackboard teaching. In class, appropriate blackboard writing can transform students' visual center and strengthen teachers' explanation.

Make full use of the advantages of multimedia teaching and introduce third-party software into classroom teaching. C programming is an important skill in developing computer software system. In C programming course, the corresponding visual c++ 6.0 software development environment can be installed on the computer in the classroom. In the classroom, the electronic courseware is used together with the programming software. While explaining the programming method with the courseware, the editing, compiling and debugging process of the C language program can be demonstrated by using the visual c++ 6.0 development environment, and the running results of the program can be observed, so that students can learn to analyze the running results, deepen their understanding, master the C language programming method faster and better, and be able to design and debug the program by themselves as soon as possible, which is simply impossible for traditional teaching.

5. Conclusion

As a means of modern educational technology, multimedia teaching is used in classroom teaching. Compared with traditional teaching, it has both advantages and disadvantages. After the practice and summary of teaching experience in recent years, the author believes that: first, we should start with courseware making, make high-quality courseware, and give full play to its favorable factors; Secondly, in classroom teaching, we should recognize the auxiliary role of multimedia teaching, organically combine it with traditional blackboard writing teaching, pay attention to the rational use of classroom teaching skills, and abandon adverse factors. Only in this way can we make full use of multimedia teaching to improve teaching quality, truly meet the needs of modern talent training, and achieve twice the result with half the effort.

References

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