

# The Exploration and Research based on Computing Thinking of the Computer Basic Course Teaching Mode

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**Abstract.** With the development of computer technology and the popularity of computer applications, computers have been used in all walks of life. In order to improve students' ability in computer applications, teachers should constantly strive to improve their teaching ideas, teaching content, and teaching methods. In the basic course teaching, the training method based on computational thinking ability is put forward, and the teaching and learning model based on computational thinking is constructed. Combined with the specific teaching curriculum, the development of computational thinking and the cultivation of computational thinking ability in education and teaching are systematically studied. Strengthen the reform of the basic work of computer culture, continue to innovate, gradually improve students' computer application ability, enhance comprehensive competitiveness, adapt to the needs of all walks of life, and deliver high-quality qualified personnel to the society.

**Keywords:** Computer foundation, teaching method, computational thinking, application ability.

## 1. Introduction

The computer basic course is a basic engineering course combining knowledge and skill. Computer is a tool. Learning to use a computer is the same as reading, writing, and counting. But computer is not a general tool. It can't be used. Computer basic education is not aimed at cultivating excellent users of computers. Some principles, and pay attention to the ability of students to use computer technology to learn and explore other courses, to cultivate students' innovative spirit and practical ability. However, the traditional teaching mode is centered on the teacher. Simply emphasizing the teaching of knowledge does not cultivate students' ability in this aspect. How to make the leading role of teachers and the main role of students perfectly combine to achieve teaching and learning. This is the requirement for the teaching of computer basic courses. Should be different from the teaching of other courses, the design of teaching methods should be breakthrough, the use of scientific teaching methods, optimize classroom teaching, improve the quality of teaching.

## 2. Teaching Thought

As the carrier of computer education, the computer basic course actively adapts to the needs of social development is the main direction of education and teaching. Therefore, the current focus of computer science teaching should be to further strengthen the construction of computer-based courses and determine the direction of computer-based curriculum development. In the teaching of computer basic courses, this paper puts forward the training method based on computational thinking ability, constructs the teaching and learning model based on computational thinking, and combines the specific teaching curriculum to systematically study the development of computational thinking and the ability of computational thinking in education and teaching. Cultivate problems.



Fig.1 Basic thinking mode of computer thinking

### 3. Teaching Content

Applying computational thinking to the curriculum teaching, the computer basic course teaching program is closely related to the two-level teaching program:

(1) The teaching content of the basic course of computer culture is generally two parts; the basic knowledge of computer and the use of computer operation, the necessary basic knowledge closely related to computer application is introduced in the basic knowledge of computer, and Windows XP is introduced in the use of computer. Basic operations of the operating system, word processing software WORD and form processing software EXCLE and the Internet. This level of teaching is aimed at all students. The purpose is to create conditions for cultivating college students' computer tool awareness and computer application ability. In the current social form, students are engaged in education, medicine, etc. after graduation, in the process of promotion of titles. To participate in the national professional and technical personnel computer application ability test, and the test content is divided into five modules, namely: EXCEL 2003, WORD 2003, POWER POINT 2003, internet application, Chinese system WINDOWS XP. This part of the content is considered to be a relatively simple content in the teaching process for a period of time. The students have a little basic foundation, so they don't even talk about it [1-2], but from the current situation, this part of the content should not only be said, but also It should be elaborated. Because this part of the content students goes to work, there will be a lot of applications in both work and life.

(2) Computer technology foundation at present, most of the high-level programming languages are selected according to the different professions, and the basic programming methods and the contents of the high-level programming language itself are introduced. The focus of high-level language programming is not on how to solve some practical problems. This is because, on the one hand, it is limited by the time of teaching plan; on the other hand, learners do not have the knowledge base and experience to solve practical problems; Must be committed to teaching the ideas and methods of problem solving, especially for the design of teaching and classroom teaching of high-level language programming. Therefore, in the process of teaching design and implementation of specific teaching, it is necessary to clearly develop and improve the learner's ability is the ultimate goal, and specific programming is only a means to achieve this purpose [3].

## 4. Teaching Methods

### 4.1 Students as the Main Body, Interactive Teaching Methods

A computer-based course with a discipline that is innovative and innovative, is a very suitable course for implementing interactive teaching. First of all, the existing computer software and hardware technical conditions can easily realize interactive teaching, especially the maturity of network technology, and more interactive teaching to insert the leap of leap. The interactive performance of computer-based teaching reflects the mutual information of the two sides of the teaching, the interaction of common development, in line with the ultimate goal of teaching, is conducive to cultivating students' good thinking, improving the ability to acquire, bed book, process and apply information, thus achieving the purpose of teaching. Improve the quality of teaching. Change the traditional single teacher teaching method, use the teacher to teach the teaching method combined with the students using interactive CAI learning software; make the students become the main body of the learning process; timely feedback the teaching information, the teaching information can be reflected in the mental state of the students learning, teaching At the time of the classroom atmosphere, the completion of the homework, the test, the analysis of the test situation, as well as the students' questions, discoveries, innovations, and practices can also obtain teaching information. Use the information obtained to drive an adjustable teaching plan and improve the focus of teaching [4].

### 4.2 Task-driven Teaching Methods

Construct a teaching model and a learning model based on computational thinking. Combining the combination of theory and practice, the computational thinking method is combined with education and teaching, and the inquiry-based teaching model (model) based on computational thinking, the task-driven teaching model based on computational thinking and the network autonomy based on computational thinking are constructed. Learning model model). Starting from the characteristics of automation and abstraction of computational thinking, the teaching and learning model based on computational thinking is formalized, and the effect of teaching mode or learning mode based on computational thinking is obtained. Second, the teaching learner based on computational thinking method uses computational thinking. The results of the method of learning", and the corresponding formal process equations are derived.

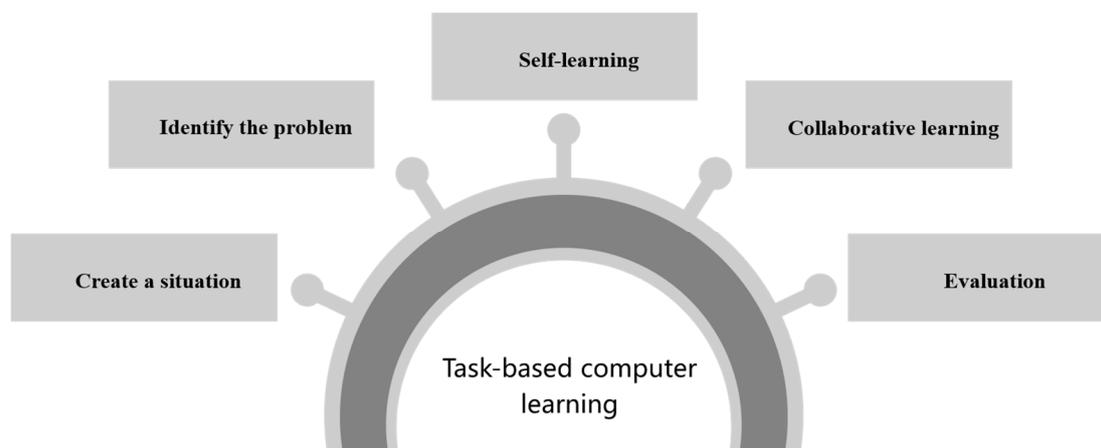


Fig.2 Task-based computer...

This method of teaching requires building on a contagious real event or real problem. Identify such real events or problems (ie tasks), and once this task is determined, the entire teaching content and teaching process are determined. Task-driven teaching consists of several teaching sessions:

(1) Creating a situation - enabling learning to occur in situations that are substantially identical or similar to the displayed situation.

(2) Identify the problem-Select the authenticity event or problem that is closely related to the current learning topic as the central content of the learning.

(3) Self-directed learning-teachers provide students with relevant clues to solve this problem and pay attention to developing students' ability to self-learning.

(4) Collaborative learning-discussion, communication, complementing, correcting, and deepening each student's understanding of current issues through confrontation between different perspectives.

(5) Effect evaluation-The learning process is the process of solving problems, and the process can directly reflect the learning effect of students. There is only one time to observe and record student performance at any time during the learning process.

## **5. Conclusion**

Practice shows that advanced teaching ideas, advanced teaching methods, and correct teaching content enable students to quickly grasp the basic concepts, basic skills and applications of the course in a short period of time, and stimulate students' interest and love for computers. Students have a good foundation in learning computer follow-up courses. Cultivate students' sense of innovation and innovation. To adapt to future employment.

## **Acknowledgments**

This work was supported by Jiamusi University Teaching and Research Project (Project No.: 2018JYXB-041, 2017LGL-018) Heilongjiang Provincial Planning Project (GBD1317136).

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