

Exploration and Practice of Interactive Teaching Mode in Computer Teaching

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Abstract: The development of science and technology in the 21st century has brought a new view of cognition. Programming is no longer a content that programmers and computer professionals will come into contact with. Many colleges and universities have begun to involve programming courses, especially in universities. However, due to the boring nature of the teaching of computer courses and the singularity of teachers' teaching methods, the teaching efficiency of computer courses is not very high. Students' interest in learning is relatively low, and the final learning effect is not very obvious. Therefore, new teaching methods are needed. To improve classroom efficiency. The purpose of this article is to study the exploration and practice of interactive teaching mode in computer teaching. This paper sorts out and analyzes the current research status of computer course teaching methods at home and abroad. At the same time, it summarizes the related researches on the application of the Jiyu platform to teaching. Under the premise of mastering the related concepts and theoretical foundations of interactive teaching, it is a follow-up The teaching design and practice of computer courses in colleges and universities provide a theoretical basis. Experimental research shows that close to 68% of classroom interaction time is within 10 minutes, and the interaction time is short. It can be seen that when the classroom interaction time cannot be guaranteed, more offline interaction time between teachers and students is needed.

1. Introduction

The key to computer curriculum reform is the implementation of textbooks, and the key entry point is computer teaching methods. In order to adapt to the changes in computer teaching reform, the review of computer learning needs new improvements. This research hopes to gradually integrate interactive learning into computer curriculum reform through the analysis of computer curriculum education in colleges and universities, so as to solve the problems that may exist in the implementation of computer teaching development [1-2]. Find the most suitable solutions for the country, schools and individual teachers and put forward practical suggestions. Make wise

supplements for future computer teaching to avoid setbacks when implementing interactive teaching functions. The knowledge gained through these studies can also provide useful indicators for improving the quality of education in our country and further developing computer education.

In the research on the exploration and practice of interactive teaching mode in computer teaching, many scholars have conducted research on it and achieved good results. For example, the research of Chin-Cheng C believes that laissez-faire education is more likely to cause differences in students' psychology. In response, compulsory interaction often has the opposite effect [3]. Oliver J S selects teachers and students as research objects, conducts questionnaire surveys and interviews on the current situation of teacher-student interaction in Python classroom education, and draws conclusions [4]. It can be seen that the research on the exploration of interactive teaching mode in computer teaching is of great significance to the development of computer education in my country.

This article takes the interactive teaching design of the electronic classroom platform in the teaching application of computer courses as the core, obtains information through the Internet, downloads related books and materials, and learns from the research results of electronic library teaching platforms at home and abroad to provide technical basis for the research. Use case analysis to randomly understand the motivations of some students, and finally draw conclusions.

2. Exploration and Research of Interactive Teaching Mode in Computer Teaching

2.1 Understanding of the Teacher-Student Relationship in Teacher-Student Interactive Classroom Teaching

In terms of conversation, interaction and communication are the common characteristics of friendly teacher-student relations in teaching, namely:

(1) Two-way intentionality. The teacher-student relationship is two-way. Teachers hope that students will learn and develop in the knowledge imparted. Therefore, students must have the desire to learn.

(2) Democracy and unity. Public relations is a general measure of the equality of human teachers and students and the relative relationship between teachers and students.

(3) Exchange and cooperation. Communication and cooperation serve as an ecosystem of teacher-student relationship in teaching. In communication and exchange, learning can be profound. Without communication and cooperation, teachers and students are in an independent position, and education is not education.

(4) Interaction and communication. Interaction and communication are basic behaviors based on communication and collaboration. Teachers and students constantly change their views and opinions in the interactive communication [5-6].

(5) Teaching and learning. Training teaching means that teachers and students learn the same or different educational experience in joint training activities to promote their own development.

2.2 Basic Characteristics of Interactive Teaching Mode

(1) The overall characteristics of the hierarchical interactive teaching model

Each teaching process is a holistic program project. It is an organic collection of different elements connected in series, with a well-functioning machine and a compact complete framework, rather than a coherent independent unit. The general characteristics of level education are contained in the work process, and it is not limited to formal mechanical applications or simplified simulations. In other words, we must not only fully understand and broaden the "levels and

interactions", but also use teaching methods flexibly.

(2) The proactive characteristics of the hierarchical interactive teaching model

Be good at teaching and emphasize teaching. "Jing" pays attention to teaching. It should fully integrate the characteristics of the teacher's curriculum and the actual needs of students to encourage students' thinking, writing and develop students' skills [7-8]. In addition, it is necessary to guide students to actively learn training methods, give more learning enthusiasm, cultivate students' positive learning attitude, and fully define their core. In the interactive training model, the "dual theme" of teachers and students is also emphasized.

(3) Autonomy characteristics of interactive teaching mode

As a teacher, you should fully play the role of guide, organizer and researcher, not only to provide opportunities for students from all over the world to explore knowledge, but also to guide students to use what they have learned to discover new knowledge. Based on this, in the actual teaching process, teachers should organize the teaching content according to the specific characteristics of the curriculum and the age and personality of the students, and adopt different methods to fully mobilize students' interest in education. To reignite students' curiosity and allow students to fully play their role in classroom interactive education, teachers need to adapt to individual circumstances and needs [9-10]. Only in this way can students learn new knowledge for a long time.

(4) The creative characteristics of the hierarchical interactive teaching model

First of all, teachers should be good at adjusting their emotional behavior in class, discussing with students on an equal footing, and thinking about problems from the perspective of students, so that all students feel rewarded and thank the teacher. Obviously, in such a unified and fair environment, emotions will gradually be provoked, making students "closer to the teacher, trust in the classroom, and enjoy learning." The second is to further improve the learning method. Adding interest directions to teaching methods helps students learn to learn, and allows students to think, explore and solve problems independently. This is also the process of students' independent learning. Finally, through student policy interaction, learning display and other learning links, students' love of learning is fully integrated into the game.

2.3 Factors Affecting Interactive Teaching Strategies

(1) Differences in interactive links

In terms of computer literacy, from the first link to the introduction link before reading, teachers can interact with students in a variety of ways to prepare and guide students to learn. A relatively new educational theme content that allows students to participate in order to promote the next step of development.

(2) Differences in interactive carriers

1) Student quality

The quality of students has an absolute influence on the interactive process of education. In the discussion of computer teaching courses, it is necessary to deeply analyze the influence of students' quality on the interactive learning process.

2) Teaching conditions

Differences in educational conditions will also affect the way of learning and communication, that is, the way of learning and communication must be adapted to different learning situations. . In some cities with modern facilities, many schools can promote the ease of use of multimedia applications, and multimedia is an important promoter of interdisciplinary and multidisciplinary

learning methods [11-12]. For example, watch videos or pictures to ask questions and discuss. Rely on multimedia applications to achieve optimization and development. However, some remote schools or schools with insufficient infrastructure may not be able to use these vehicles. Therefore, in this case, the method of teaching communication should change with the change of the environment, that is, with the change of learning conditions.

2.4 Estimation of the Sample Error of the Questionnaire

The objective function of learning is defined as:

$$f_p(x) = \int_Y y d\rho(y|x), \quad x \in X \quad (1)$$

In the regression problem of learning theory, ρ is the marginal distribution of the probability measure defined on $Z := X \times Y$.

The least squares regularization regression algorithm is defined as:

$$f_{z,\lambda} = \arg \min_{f \in H_K} \left\{ \frac{1}{m} \sum_{i=1}^m (f(x_i) - y_i)^2 + \lambda \|f\|_K^2 \right\} \quad (2)$$

Here λ is the regularization parameter. Usually choose λ , which is a function of m .

3. Investigation and Research of Interactive Teaching Mode in Computer Teaching

3.1 Determination of the Survey Sample

The research objects are mainly sophomores and juniors, and the freshmen and seniors are supplemented. The main groups are the sophomores and juniors in the classroom setting process. Freshman students have not yet been exposed to all the classrooms and senior students' impressions of the relevant classrooms may be vague. Therefore, this adjustment was made on the sample of the questionnaire, and then the survey subjects were randomly selected, based on majors and genders. Balance, and strive to truly and comprehensively reflect the problem.

3.2 The Basic Composition of the Questionnaire Survey

The questionnaire was distributed online and offline. Online is mainly for collective testing, offline is for individual testing. A total of 1,000 questionnaires were issued and 950 questionnaires were returned, with a recovery rate of 95%. Excluding the questionnaires that were filled in incorrectly, omittedly, indiscriminately, and ambiguously, the number of valid questionnaires was 936.

4. Investigation and Analysis of the Exploration Experiment of Interactive Teaching Mode in Computer Teaching

4.1 The Classroom Interaction Time is Short and Students Are More Passive in the Interaction

Classroom interaction is an important part of the smooth development of classrooms in colleges and universities, which affects the actual effect of educational theory courses. The amount of classroom interaction time is an important reference standard for the effect of interactive

communication. The more time, the less time the teacher will give unilateral teaching as the "protagonist" in the classroom, and the more interaction time students will have in the classroom. The longer the interaction time, the easier it is to produce interactive effects. The results of the experimental investigation are as follows: Table 1 shows.

Table 1: Teacher-student interaction time

Time	Male teacher	Female teacher
0-5 minutes	23.5	24.2
6-10 minutes	43.7	45.1
11-20 minutes	22.4	23.1
21 minutes or more	10.4	7.6

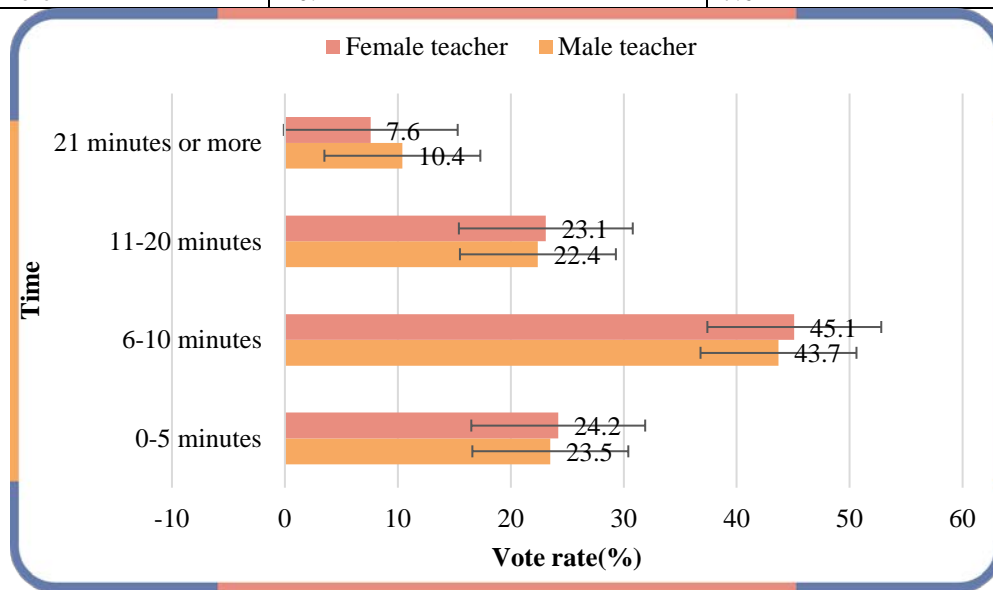


Figure 1: Teacher-student interaction time

As shown in Figure 1, the interaction time of an average class is 23.85% in 0-5 minutes, and 44.3% in 6-10 minutes. That is to say, close to 68% of the classroom interaction time is within 10 minutes. The interaction time is too short. Taking into account the teaching tasks and the actual situation, the interaction time can not be too much, but the interaction should run through the entire classroom. In the case that classroom interaction time cannot be guaranteed, we need more offline interaction time.

4.2 Interaction Produces Emotional Communication

In the survey of whether students will open their hearts to classroom teachers during the interaction, the experimental survey results are shown in Table 2.

Table 2: Interaction produces emotional communication

Options	Male	Female
Often	22.1	21.5
Sometimes	24.6	23.8
Rarely	29.4	30.6
Rush not	23.9	24.1

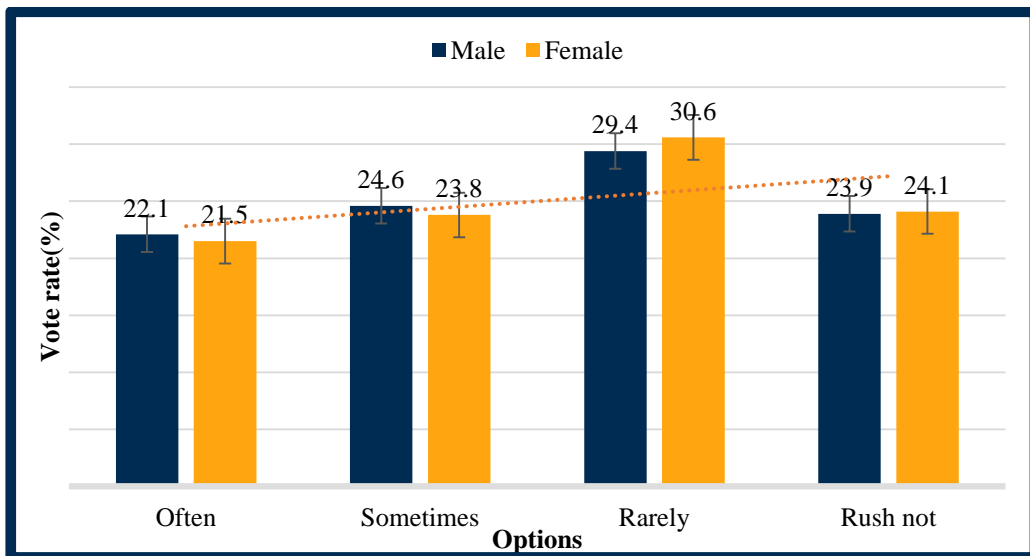


Figure 2: Interaction produces emotional communication

As shown in Figure 2, it can be seen that 30% of the students rarely meet, and 24% never do. The sum of the two is more than 50%. This shows that in educational activities, it is very difficult for students to open their hearts to teachers, and it is extremely difficult for them to have emotional exchanges. The reason is that students have a natural awe of teachers, so interactions are relatively small, and it is not easy to open their hearts. Therefore, in order to better interact, it is necessary to create a multi-subject interactive relationship. With more interactive subjects, it is easier for students to open themselves in the interaction.

5. Conclusions

In fact, teachers should adjust the content taught to varying degrees in accordance with the actual situation of the classroom and the actual situation of the students. In computer teaching, the addition and deletion of computer textbooks, the choice of interactive methods, and the adjustment of interactive methods before, during and after teaching can all be changed on the original basis. Because compliance and development are not contradictory, only development on the basis of compliance can make teaching activities more effective and produce better results. Should the interactive teaching model distinguish between subjects and whether it should be focused. There is still controversy over which of the teachers and students are the main subjects. Whether it should depend on the situation. For example, when the course is too difficult or too easy, whether it should be adjusted or not is also a question that needs further research.

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