Research on the application of project teaching method in computer teaching in Vocational Colleges

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Abstract: the project teaching method advocates "employment oriented and ability based". By applying the actual work projects of enterprises to the whole process of computer teaching, it is conducive to the reform of computer teaching methods in all aspects, improve students' professional skills and professionalism from different angles, and then output more and more popular computer technology talents for enterprises. This paper first briefly describes the characteristics and implementation principles of the project teaching method. By exploring the significance of the application of the project teaching method in computer teaching in vocational colleges, it focuses on the research and discussion of the effective strategies of application, in order to bring students different professional experience, improve their professional quality, and finally lay a solid foundation for them to work.

Key words: project teaching method; Vocational colleges; Computer teaching; Application strategy

Introduction

In recent years, vocational education has been booming. At the same time, its unique value and significance have become increasingly prominent. High quality and efficient learning is very important to consolidate students' professional foundation and improve their technical ability. The effective integration of project teaching method and computer teaching has obvious advantages. On the one hand, it can fundamentally improve the current situation of the separation of computer teaching theory and practice. On the other hand, it can help students develop practical application skills that are more in line with social development and job requirements, and lay a solid foundation for their future employment.

1 The important significance of the application of project teaching method in computer teaching in Vocational Colleges

Although students may be exposed to computer related professional knowledge from junior high school, the computer professional knowledge and skills in vocational colleges are more systematic and professional than before. If teachers continue to adhere to the traditional teaching ideas and methods, and only limit the teaching content to textbooks, So it is not only difficult for students' confusion and problems to be solved, but also difficult to fully mobilize students' initiative in learning. The emergence of project teaching method is conducive to

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fundamentally breaking through the disadvantages of traditional teaching methods, taking specific actions or work tasks as the guidance, cultivating students' professional consciousness, optimizing the whole computer teaching process, promoting development through practice, significantly improving students' employment competitiveness, and fundamentally alleviating the current situation of students' difficult employment by promoting the integration of "teaching and practice".

2 Characteristics and implementation principles of project teaching method

1. Characteristics of project teaching method

First of all, the goal points to multiplicity. For students, project teaching method is a new teaching method that pays more attention to stimulating students' learning initiative. Through students' personal participation in practice, their creativity, ability to analyze and solve problems will be targeted. For teachers, teachers play a unique role in guiding, organizing and promoting the whole process of project design, implementation and completion. Slowly, it is conducive to fundamentally changing teachers' educational philosophy and teaching methods, and promoting the significant improvement of teachers' professional ability. For schools, the implementation of project teaching method is conducive to the reform of management mode, organization form, assessment and evaluation of schools as soon as possible, and then gradually improve and re integrate the school curriculum system.

Secondly, good controllability. Both students and teachers are the main participants of the project teaching method. In the whole teaching process, students' activities cannot be separated from teachers' whole process guidance, which is more conducive to students' focus on training skills and strengthening knowledge.

2. Implementation principles of project teaching method

First, choose the right project. Project selection is the basis for the implementation of project teaching method. It should not only be based on the teaching content, but also be close to the actual situation of students and the work content of the corresponding positions in the enterprise. It is best to select the actual project of the enterprise; We should not only pay attention to the improvement of students' professional skills, but also cultivate their professional quality, and fully mobilize students' initiative to participate in the project; The project selection should focus on the principle of from easy to difficult and from simple to complex. The project should have certain characteristics such as comprehensiveness, knowledge, feasibility and interest.

Secondly, reasonable grouping. Students' cooperation is the core of the implementation of project teaching method. Due to the uneven individual differences of students, teachers should try to ensure that each group has the same level of comprehensive strength when grouping, so as to ensure good competition and make students deeply aware of the importance of teamwork, so as to achieve the established teaching goals.

Finally, a reasonable evaluation mechanism. The evaluation mechanism based on project teaching method is more comprehensive and diversified. Teachers should start from the actual situation of students, pay attention to their individual differential development, and guide students to invest in learning and practice step by step at different levels. Teachers evaluate students objectively and fairly according to the completion of the project and the performance of students in the whole process.

3 Effective strategies for the application of project teaching method in computer teaching in Vocational Colleges

1. Rational design of computer teaching project

Usually, the project in the project teaching method has certain comprehensive characteristics, that is to say, it will involve all kinds of knowledge and skills related to computers. In order to reasonably design computer teaching projects, before the design, teachers should go deep into front-line enterprises to visit and investigate, effectively integrate various computer related projects and design teaching projects on this basis. At the same time, the design of teaching project should be based on the actual position, teachers can extract from the actual work tasks, and strive to closely unite teachers and students, so as to ensure the smooth development of project teaching method. When selecting a project, pay attention to the following points:

First, the project is closely related to the actual work needs, and can reach an agreement with the future student employment.

Second: the project design should not be separated from the training program of computer professionals and specific curriculum standards, and should include teaching priorities and difficulties as much as possible.

Third, the difficulty of the project should be moderate, and it is best to design the project from the students' basic computer ability.

Fourth: the content of the project keeps pace with the times. Teachers should pay close attention to the social demand and requirements for computer talents' ability in the past two years.

2. Team work to complete project tasks

Teachers should group students with the principle of balance as the core. Before grouping, teachers can let each student fill in the personal situation questionnaire, so that teachers can have a specific understanding of students' personal actual situation, and also provide a good reference for teachers' next grouping. At the same time, each group shall elect a team leader who shall give timely feedback to the teacher on the project implementation progress, division of responsibilities, problems and puzzles within the group. The group leader should do a good job in the lubricant between students and teachers, so as to greatly improve the effectiveness and effectiveness of the implementation of project teaching method.

Specifically, after clarifying the project tasks, teachers can guide students to independently determine the project schedule and schedule

of each group, and students can complete a reasonable division of labor within the group, and then work can be formally started. In the process of division of labor and cooperation, teachers should guide students to correctly view and solve problems, always maintain the psychological courage to explore for complex computer skills, and the team leader should organize timely communication among the whole team members for technical difficulties. If there are problems that can not be solved, students should seek the help of teachers in time. During the whole project implementation process, teachers should regularly check the completion of each group's tasks on time, and give timely guidance to the problems at any time. Of course, at the right time, teachers can also invite the front-line technical staff of enterprises to give face-to-face guidance to students, which is more conducive to students' solid mastery of computer knowledge and skills, as well as in-depth understanding of the specific work content of front-line staff.

3. Project works display and evaluation

Work display and project evaluation are essential key links of project teaching method. Whether the evaluation is reasonable or not is directly related to the implementation quality of the next project, and will also affect the enthusiasm of students.

First of all, teachers can organize members of each group to display and report the corresponding achievements in the form of PPT combined with project practice report. If time and conditions permit, each group should complete the report in class. The main content of the report includes what they have completed, what problems they have encountered, specific solutions and the final harvest, Finally, the group leader will make a summary speech to explain the highlights and shortcomings of each student in the process of completing the project, which will become an important reference and basis for teachers' evaluation in the future.

Secondly, after the report is completed, the teacher should organize students to make comments and evaluations on the project and members' performance of each group. Teachers can introduce various evaluation methods such as self-evaluation, group mutual evaluation, teacher evaluation, enterprise evaluation, etc. Teachers should pay special attention to each student's computer ability and level, and also pay attention to the generation and change of each student's professional behavior ability.

Finally, teachers should summarize and reflect on the whole project in combination with the training objectives of computer talents and computer teaching standards. In the process of summarizing, teachers should re emphasize the key and difficult points of computer technology, so as to strengthen students' mastery and cognition of this part of knowledge. At the same time, based on this project, teachers should also extend another project, truly let students understand the close internal relationship between project and project, knowledge and knowledge, and let students really feel more project tasks related to the actual job in a limited time, so as to greatly broaden students' vision and consolidate their theoretical and practical foundation.

4. The specific practice of project teaching method in the course of "Python language programming"

Python is a language with simple introduction, flexible use, complete ecology and wide application. Many vocational colleges in China have opened the course of Python language programming. Because some teachers are also the first time to contact this course, they lack a comprehensive understanding of the methods and Strategies of project teaching method and course integration. Therefore, it is necessary to take the course of "Python language programming" as an example to elaborate the steps and methods of applying project teaching method to this course.

From a macro perspective, the integration of "Python language programming" course and project teaching method can be divided into five steps: the first step is to clarify the project tasks, and teachers create life-oriented teaching situations for students in combination with specific project tasks, so as to attract students' attention to specific projects in the shortest time. The second step is to design the algorithm. From a macro point of view, any computer program composition can be abstractly understood as three stages: input processing and output. According to different problems, the scale and complexity of different stages are also different. At this stage, teachers should guide students to draw a flow chart based on in-depth analysis of the project according to the task requirements. The third step is programming and debugging. According to the results of algorithm analysis, write code program. The fourth step is to analyze the results. Students should run the program independently. If there are errors in the program, they must re check whether there are format errors in each step of writing, further increase the effectiveness of reading through Strictly Standardizing the program, and significantly reduce the logical errors in the debugging process. In the past, it is conducive to cultivating students' logical thinking and training their computing ability. Next, the author takes "sequential structure teaching" as an example to explain how the project teaching method can help students learn python programming knowledge and effectively train students' Computational Thinking.

First, teaching points: the key and difficult points of this lesson are to guide students to understand the concept and importance of sequential structure. Therefore, when designing projects, teachers should fully show the importance of order. Teachers can divide this lesson into two classes, one for teaching and the other for practicing. When designing projects, teachers can guide students to understand the concept of sequential structure from the perspective of living scenes. Next, use cases or procedures to demonstrate what results will occur when the sequence steps change.

Second, teaching cases: teachers can divide teaching project tasks into three activities, so that students can understand and operate step by step. Activity 1: contact with the reality of life. Take "scrambled eggs with tomatoes" as a teaching case. First, divide the students into different groups and let them freely discuss the correct steps of scrambled eggs with tomatoes and explain the reasons. From the perspective of reality, students can more specifically understand the change of order by sorting out the specific steps of scrambled eggs with tomatoes, and deeply understand the importance of order. At the same time, students can clearly understand the specific impact of the change of steps on the results. Activity 2: Design self introduction. The main contents of the introduction include name, place of origin, interests and hobbies, etc. the teacher guides the students to sort out these contents and write codes in order to show them to the teachers and other

students in the form of programming. After clarifying the task, the teacher can first make a program demonstration. Activity 3: counting game. The situational teaching method is introduced. Two students form a group. One student reports the three digit number, and the other student reports the number obtained by exchanging the hundred digit number with the single digit number. Next, analyze the modeling and game sequence, design the algorithm, and finally realize the counting game through programming.

epilogue

To sum up, the application of project teaching method in computer teaching process pays more attention to the close combination of theory and practice. From design, implementation to completion, the project is actually answering the fundamental questions such as "why, how and what effect can be achieved". Before the project started, the students were required to analyze the project from the principle. At the same time, the results of practice also questioned the students again "whether they are consistent with the teacher's explanation and urged the students to reflect and summarize in time". From this point of view, it is quite necessary for teachers to flexibly apply the project teaching method in the process of computer teaching.

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