The Application Status and Path of Project Teaching in Computer Teaching

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Abstract
In recent years, with the rapid development of information technology and the increasing importance of computer skills, computer education has become an important task in the field of education. In order to cultivate students' ability of computer practice and solve practical problems, project teaching gradually becomes a figure as a modern educational method in computer teaching. Project-based teaching is a project-based learning approach that emphasizes that students acquire knowledge and skills by participating in real-world project activities, through practice and cooperation. In the computer teaching, the project-based teaching can make the students more close to the practical application, and exercise their problem-solving ability, teamwork ability and innovation ability. At the same time, project-based teaching can also stimulate students' interest in learning and improve their learning motivation and participation. At present, the application of project teaching in computer teaching is gradually increasing. Some colleges, primary and secondary schools and even kindergartens have begun to try to introduce project-based teaching into computer courses to improve students' practical operation ability. This paper analyzes the application of project teaching in computer teaching. Hope that this can provide a certain reference for the project teaching, so that the computer teaching work can be constantly optimized.

Keywords
Project teaching, computer teaching, application status

Introduction
As a rapidly developing subject, computer science and technology have very high requirements for cultivating students’ practical operation ability and the ability to solve practical problems. Traditional computer teaching often focuses on theoretical knowledge. Students mainly impart knowledge and learn theory in the classroom, lack of practice and application opportunities, resulting in students facing certain difficulties in practical application. Therefore, how to effectively improve students' practical operation ability and application ability has become a research hotspot in the field of computer education. As a modern educational method, project-based teaching emphasizes that students acquire knowledge and skills by participating in real-world project activities to achieve knowledge and cooperation. Project-based teaching enables students to conduct problem solving, teamwork and innovative practice in practical projects, so as to cultivate students' practical operation ability, application ability and comprehensive literacy. In computer teaching, project-based teaching can help students to transform abstract theoretical knowledge into practical application, better understand and master computer technology, and can use the knowledge learned in practical projects to solve practical problems, and improve practical operation ability and application ability. In recent years, more and more schools and educational institutions began to try to introduce project-based teaching into computer teaching, in order to improve students' practical operation ability and application ability.
Some studies also show that project-based teaching has good results in computer teaching, which can significantly improve students' learning interest, learning motivation and learning effect. However, at present, the application of project teaching in computer teaching still faces some challenges and difficulties, including teacher training, curriculum design, teaching resources and other aspects, which need further in-depth research and discussion [1]. Therefore, it is necessary to have an in-depth understanding of the application status of project teaching in computer teaching, and put forward reasonable application paths, so as to promote the promotion and application of project teaching in computer teaching, so as to provide effective teaching strategies and methods for improving students' practical operation ability and application ability.

1. The importance of project-based teaching application in computer teaching

The application of project teaching in computer teaching is important, mainly reflected in the following aspects. First, improve the students' practical operation ability. Traditional computer teaching often pays attention to the teaching of theoretical knowledge, but it lacks the effective cultivation of students' practical operation ability. The project-based teaching puts the students in the actual project, let them personally participate in the design, development and implementation of the project, and exercise the students' practical operation ability. Through practical operation, students can master the specific application methods and skills of computer technology, so as to better cope with the challenges in practical work and practical projects. Second, cultivate students' application ability. Project-based teaching focuses on the transformation of theoretical knowledge into practical application, so that students can use the knowledge they learn to solve practical problems in practical projects, and cultivate students' application ability. By participating in project activities, students learn to apply theoretical knowledge to practical projects, master the methods and strategies to solve practical problems, improve their practical application ability, and make them more practical and application value. Third, strengthen students' teamwork ability. In the field of computers, projects often require multiple collaboration, teamwork and communication. Project-based teaching exercises students' teamwork ability by participating in project activities. Students need to cooperate with team members, work together, and solve problems together, which cultivates their teamwork awareness and ability, and improves the effect of teamwork. Fourth, stimulate students' interest in learning and learning motivation. Traditional computer teaching is often based on theoretical knowledge, which is easy to make students feel boring and lack of interest. Project teaching places students in actual projects, allowing them to participate in, practice and innovate, and stimulates students' learning interest and motivation. Students feel the sense of achievement in the practical application of knowledge and solving practical problems in the practical project, and are more actively engaged in the study so as to provide effective teaching strategies and methods for improving students' practical operation ability and application ability [2].

2. Problems facing the application of project-based teaching in computer teaching

2.1 Large resource input

Project-based teaching usually requires more resources, including hardware facilities, software tools, teacher training, and time and manpower for project implementation. Especially in the field of computer, the technology is updated quickly, which needs to constantly update and maintain the teaching resources, which increases the cost and difficulty of teaching.

2.2 Students' lack of independent learning ability

Project-based teaching requires students to have strong independent learning ability and to be able to solve problems independently in the project. However, in fact, some students still have deficiencies in self-learning, self-management and self-evaluation, which lead to the inability to give full play to their potential in the project, which affects the effect of the project.

2.3 Changes in teachers' roles

In the traditional computer teaching, teachers usually play the role of knowledge imitator and instructor. In project teaching, teachers need to play more roles as mentors and instructors to guide students to explore and practice independently. For some traditional teachers, they may need to change their educational concepts and teaching methods.
and face certain challenges.

3. The application path of project-based teaching in computer teaching

3.1 Define the teaching objectives

The clarity of teaching objectives is one of the keys of project-based teaching. When applying project-based teaching in computer teaching, teachers need to clarify the teaching objectives in the following aspects. First are knowledge goals. Make clear the computer knowledge that students need to master in the project, including basic computer knowledge (such as computer hardware, operating system, network, etc.), programming language knowledge, database knowledge, etc. Second are skill goals [3]. Clarify the computer skills that students need to cultivate and improve in the project, such as programming skills, software development skills, system design and implementation skills, database management skills, etc. Third are practical goals. Clarify the actual operation and practical activities that students need to carry out in the project, including project requirements analysis, system design, coding implementation, testing and debugging, project management and other practical links. Fourth are innovation goals. Clarify the innovation and creativity that students need to cultivate in the project, encourage students to put forward new ideas, solve practical problems, design new systems or applications in the project, and can reflect innovative thinking and methods. Fifth are teamwork goals. Clarify the teamwork ability that students need to cultivate in the project, including the ability of team communication, collaboration, division of labor and cooperation, problem solving and other aspects. Sixth are independent learning goals. Clarify the independent learning and self-management ability that students need to conduct in the project, encourage students to actively participate in the project, think independently, study independently, and form the habit of self-learning and self-improvement. Teachers in the project teaching should according to the subject content, students' actual situation and learning stage, reasonable set teaching goals, clear students in the project should achieve knowledge, skills, practice, innovation, teamwork and the aspects of autonomous learning, so as to guide students to actively participate in the project, all-round development. At the same time, during the implementation of the project, teachers need to regularly evaluate students' learning conditions, adjust and optimize according to the evaluation results, to ensure the realization of teaching objectives. Project-based teaching requires students to have strong independent learning ability and to be able to solve problems independently in the project. However, in fact, some students still have deficiencies in self-learning, self-management and self-evaluation, which lead to the inability to give full play to their potential in the project, which affects the effect of the project [4].

3.2 Reasonable project topic selection

In project-based teaching, the rationality of project topic selection plays a vital role in the teaching effect. A project with a reasonable topic selection can stimulate students' interest in learning, improve their learning enthusiasm, and better combine with the course content and subject requirements to achieve interdisciplinary integration. Here are some ways to discuss the rationality of the project topic selection. First, teaching goal-oriented. The project topic selection should be closely related to the teaching objectives, which can help students to achieve the course learning objectives and training objectives. The topic selection should be in line with the students' grade, subject level and learning interest, and can stimulate the students' interest in learning, so that the students can truly experience the application and practice of knowledge in the project. Second, practical and problem-oriented. The project topic selection should choose practical problems or practical application scenarios as the research object, which can guide students to carry out practical operations and practical activities, and cultivate students' ability to solve practical problems. The topic selection should be combined with the actual situation of the local or school, which can solve or improve the practical problems, and has certain practical significance. Third is interdisciplinary integration. The project topic selection should be able to cross multiple disciplines and fields to achieve interdisciplinary integration. By selecting the project topics involving the knowledge and skills of multiple disciplines, students can be encouraged to carry out comprehensive learning and comprehensive practice, and cultivate students' comprehensive literacy and interdisciplinary thinking ability. Fourth is student participation orientation. When selecting a project topic, students' willingness and interest should be considered, and students should be encouraged to participate in the process of topic selection, so as to enhance students' initiative and enthusiasm. Students can participate in the process of topic selection through questionnaires, group discussions, and students' independent topic selection, so as to ensure that the topic selection is in line with students' interests and actual situation. Fifth is the feasibility of the consideration. The
project topic selection should take into account the feasibility of the project, including the project timing arrangement, resource support, team cooperation and other factors. The topic should be in line with the students' learning schedule and schedule, can be completed within the time frame of the project, and can provide sufficient resource support to ensure the smooth progress of the project.

3.3 Strengthen student teamwork

In project-based teaching, teamwork is an important element, which can help students cultivate social communication skills such as teamwork, communication and leadership skills, and improve the comprehensive effect of the project. Here are some ways to strengthen student teamwork. First, set clear team roles and tasks. Before the project starts, define the roles and tasks of each team member to ensure that each person has a clear division of labor and responsibilities in the team. This helps to stimulate students' sense of cooperation and teamwork spirit, and avoid ambiguous roles and overlapping tasks in the team. Second, develop teamwork skills. Teachers can cultivate students' teamwork skills, including communication skills, coordination ability, decision-making ability, problem solving ability, etc. Through group discussion, role play, teamwork games and other ways, we can stimulate students' teamwork potential and improve the team cooperation effect. Third, provide teamwork support. Teachers can provide necessary support and resources, such as appropriate teamwork tools, learning materials, guidance and feedback, to help students with better teamwork. At the same time, teachers should also conduct regular teamwork evaluation and feedback, and find out and solve problems in time. Fourth, encourage the team to manage independently. Teachers can guide team members to manage the process of the project, including team goal setting, planning, resource allocation, etc. By encouraging team members to manage their teams independently, developing their leadership and team management skills, teams can cooperate more efficiently. Fifth, emphasize the importance of teamwork. Teachers can emphasize the importance of teamwork in the project and guide students to realize the key role of teamwork in the success of the project. Students' interest and awareness of teamwork can be stimulated by means of case sharing and teamwork experience exchange.

Epilogue

In the future computer teaching, students' comprehensive quality and practical ability can be cultivated by constantly improving the implementation methods and strategies of project teaching, so as to adapt to the needs of the rapidly changing information society and scientific and technological development. At the same time, it can also strengthen the cooperation with enterprises and social resources, introduce practical projects and practical problems, and improve students' ability to solve practical problems and innovation ability. Comprehensive use of modern educational technologies, such as online learning platform, virtual laboratory, etc., can provide better technical support and resource support for project-based teaching, and promote students' deep learning and comprehensive practice in computer teaching. This paper analyzes the application of project teaching in computer teaching. Hope that this can provide a certain reference for the project teaching, so that the computer teaching work can be constantly optimized.

References