

Research and Practice on the Integration of Hydraulic and Pneumatic Technology Teaching

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Abstract

With the deepening of the pace of education reform, schools pay more attention to the cultivation of comprehensive ability in the training of talents, aiming at the development of students' practical ability and innovation ability. Under the background of the requirements for talents in the new era, the integrated teaching model has received more attention. In the teaching process of hydraulic and pneumatic technology, through creating efficient and real practice mode for students, improve the effectiveness of teaching, realize the integration of hydraulic and pneumatic technology teaching, in line with the education goal of the new era. This paper will study the strategy of integrated teaching of hydraulic and pneumatic technology to promote the teaching effect toward the ideal goal.

Keywords

Integrated Teaching; Hydraulic and Pneumatic Technology; Strategy.

1. Introduction

The course of hydraulic and pneumatic technology is highly technical, which is difficult for many vocational college students. Students need to take into account practical operation while mastering theoretical knowledge. In order to make students fully realize the combination of theory and practice, teachers need to innovate the teaching mode, break through the limitations of previous teaching, mobilize students' learning enthusiasm, let students pay attention to skills training, realize integrated practice learning, improve teaching quality, and cultivate more talents to meet the needs of the society.

2. The Value of Integrated Teaching of Hydraulic Transmission and Pneumatic Technology

In contemporary society, applied talents with practical ability are scarce. As the main position to cultivate applied talents, vocational colleges should aim to cultivate talents with strong practical ability and high comprehensive quality in the process of talent training. Currently many schools in the teaching of hydraulic and pneumatic technology, there are cultural foundation weak students, learning ability is poor, the problem of low absorbance of specialized knowledge, but affects the quality of teaching, in order to solve the existing problems, and should strengthen the integration teaching mode, make an organic combination of theoretical knowledge and practical operation, promote each other and play their respective advantages, Make a boring theory course come alive. As a relatively new teaching model, integrated teaching fully reflects the intuitionistic and three-dimensional nature of the teaching process, so that complex professional knowledge can be presented in a simpler form, and students' understanding can be strengthened. Even students with weak cultural foundation can quickly master it, ensuring students' initiative in the learning process. At the same time, integrated teaching also adheres to the principle of starting from shallow to deep, conforms to the cognitive law of vocational college students, and combines theoretical knowledge with skill

training, which can improve the comprehensive quality of students more comprehensively and meet the needs of talent training in the new era.[1].

3. Practice Strategy of Integrated Teaching in Hydraulic Transmission and Pneumatic Technology

3.1 Formulate Teaching Objectives that Meet the Requirements of Integrated Teaching

Teaching goal setting is the basis of the full implementation of integrated teaching, is the starting point of the implementation of teaching design, stronger in order to help the students master the basic principle of hydraulic and pneumatic technology and actual operation, teachers need to pay attention to the course of practice, enhancing the application value, on the training of the students' professional ability make contact with reality, deepen the using ability, Lay the foundation for students to develop deeper skills and knowledge. At the same time, we should cultivate students' innovation ability and rigorous attitude in daily teaching. Rigorous is the necessary quality of the job.[2] In the learning stage, a rigorous style will be formed, and only in the future can we achieve long-term development in the job. At the same time, it is necessary to simplify teaching materials, filter out some unimportant theoretical knowledge, analyze key points and difficult points, and increase the arrangement of practical training courses. Finally, it is necessary to keep close contact with the social market, absorb the latest and most advanced technical content, and impart it to students to improve their knowledge reserve, so that they can better integrate with their jobs in the future.

3.2 Adopt Multimedia Teaching Guidance

The course of hydraulic transmission and pneumatic technology contains complex knowledge systems such as structure diagram and schematic diagram. Many students find it difficult to achieve the best teaching effect at the initial stage of contact, because the complex content often undermines their confidence in in-depth learning. In order to achieve the goal of integrated teaching, teachers can use multimedia equipment to teach, create an ideal teaching environment, through the guidance of pictures and pictures, maintain the enthusiasm of students to learn, let students take the initiative to participate in the learning project.[3] [4] For example, when learning the content of "pilot relief valve", teachers can make simulation animation with the support of multimedia technology, so that students can easily understand the working principle, and think deeply under the guidance of animation, so as to give play to their subjective initiative in learning. In order to ensure the effectiveness of integrated learning, teachers need to connect theoretical knowledge with practical training guidance, integrate educational resources inside and outside the class, mobilize students' thirst for knowledge, connect with practical training content, stimulate students' learning potential, and improve the overall quality of teaching. [5]

3.3 Establish Integrated Special Classroom

With the support of multimedia technology in hydraulic and pneumatic technology teaching, the establishment of integrated special training classroom can improve the integrated teaching quality again. [6] Multimedia animation demonstration and simulation operation, though as far as possible reduction of the scene, but still can not replace real operating experience, in order to guarantee the students' study effect, teachers can use multimedia playback devices, and the simulation software technology with the practical teaching, establish the integration of the specialized classroom, When carrying out teaching activities, teachers can take advantage of the unique advantages of integrated special teachers to guide students in theoretical teaching and practice simulation, so as to avoid the connection problems between the two and affect the quality of teaching. [7] [8] The concrete operation process, the teacher according to students' learning situation, arrangements for theory and practice of science, for example in the study to the hydraulic oil flow law related content, teachers can make use of the simulation model of hydraulic components in order to develop the teaching, lets the student at close range, multi-dimensional observation, firmly grasp the key points of memory.[9] For example, when learning the related content of the speed regulation loop principle, it is the core

part of this part of knowledge. Teachers can lead students to carry out practical operation, and deepen students' memory of this part of knowledge point and fully explore students' practical ability by sensing the movement and change of the valve core.

3.4 Reform Evaluation Methods

Based on the requirements of integrated teaching, it is an inevitable trend to reform the assessment and evaluation methods. To carry out comprehensive learning evaluation for students and multidimensional consideration of knowledge, practice, comprehensive quality and so on, can better reflect the effectiveness of integrated teaching. Collect students' daily learning conditions, such as homework submission, classroom questions and so on, as well as their performance in practical operation, ensure the objectivity of teaching evaluation, and integrate teaching evaluation into teaching activities, so as to help students recognize their own shortcomings and promote their own improvement. At the same time, based on the background of the integration of teaching, also need to make sure that the evaluation of middle school students comprehensive practical ability get investigation, combined with strict teaching evaluation system of comprehensive evaluation of students' practical situation assessment with team and individual assessment of a combination of both, element identification, circuit simulation, circuit assembly and finishing the situation, and so on, The most real evaluation can be obtained from the individual performance and the performance in the group. Teachers can also adjust the teaching plan and strategy according to the results of the evaluation, so as to continuously promote the improvement of teaching quality.

4. Conclusion

With the development of The Times, the requirements of the society for talents are also changing. In the process of training talents, vocational colleges need to take into account the urgent needs of the society for talents. Vocational college in the original hydraulic and pneumatic technology teaching, promote the integration of teaching, the fusion of the new era of teaching method, stimulate students' learning enthusiasm, lets the student theoretical knowledge and practical skills of common development, realize the theory and practice to promote each other, make progress together, improve the comprehensive quality of vocational college students.

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