

Analysis on the Teaching Methods of Electronic and Electrical Experiments

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Abstract: Electronic and electrical engineering has a strong practicality. In the teaching, the teacher organizes practical teaching for the specific and teaching objectives of the students. Scientific and reasonable experimental teaching methods conform to the goal of teaching reform and broaden students' horizons. This article will focus on the exploration and analysis of electronic and electrical experimental teaching methods.

Keywords: Electronic and electrical; experimental teaching; method.

1. INTRODUCTION

As a basic course for electromechanical majors, electronic and electrical engineering is relatively practical and plays an important role in the electromechanical profession. The experimental course is the best way to learn electronic and electrical tools and teaching methods. Teachers should adopt active experimental teaching methods when carrying out electronic and electrical teaching, and improve students' knowledge reserve and ability to use knowledge flexibly.

2. INNOVATIVE EDUCATIONAL CONCEPTS, ADOPT A DIVERSIFIED TEACHING METHOD

In the experimental teaching, the traditional teacher-teaching is mainly changed into student-based learning, and the student's subjective position in teaching is strengthened. Regardless of the form of teaching, the purpose should be to improve the enthusiasm of students to learn electronic and electrical, and to stimulate students to learn. The form of experimental teaching can use autonomous experimental teaching, research-based experimental teaching, open experimental teaching and regular experimental teaching. The experimental process highlights the subjectivity of students. Even in the case of regular experimental teaching, students should pay attention to the cultivation of students' practical ability and innovative ability, and develop students' own habits. In the teaching of electronic and electrical experiments, the laboratory should be open to management, timely maintenance and update of experimental equipment and test equipment, to ensure that students can use it at any time, teachers provide students with appropriate experimental sites, actively counseling students to learn, and solve problems in student learning^[1].

3. INTRODUCE NEW METHODS AND ENRICH TEACHING METHODS

Electrical and electronic experiment teaching should actively introduce new teaching methods, such as EDA technology and EWB technology. When developing the modulus-electrical experiment, EWB simulation technology enables students to use the Multisim software for virtual simulation experiments on the computer, observe and analyze the structure of the circuit, understand the working

principle of the circuit, and strengthen the understanding of the experimental principle. Use modern teaching methods to strengthen the promotion of multimedia teaching and practical teaching. Teachers and students use BBS to establish a good interactive relationship. Teachers can timely understand the problems in the students' learning process, propose solutions to problems, and cultivate students' ability and comprehensive quality to consolidate knowledge^[2,3].

4. OPTIMIZE THE TEACHING PLAN, TEACH STUDENTS IN ACCORDANCE WITH THEIR APTITUDE

The laboratory should break through the traditional boundaries of strong electricity and weak electricity, and build an experimental course system for electrical and electronic teaching objectives, so that students can understand simple separation devices, fully understand the principles of instruments and devices, assemble and package integrated chips. In the process of learning, students should be guided to consolidate the experimental content, requiring students to read the information independently and self-help, verify the accuracy of the selection of the program, and systematically improve the learning skills^[4]. Teaching students in accordance with their aptitude can ensure that students of different majors and different levels can develop personalized learning habits. Level-by-level teaching is a relatively good method in experimental teaching.

5. IMPROVE THE TEACHING ENVIRONMENT AND FOCUS ON DEVELOPING STUDENTS' ABILITIES

The main purpose of electronic and electrical experiment teaching is to improve students' comprehensive quality, strengthen students' practical ability, and gradually develop students' innovative spirit and practical ability in the process of learning. Under the background of talent demand in the new century, the demand for innovative talents in social development is very urgent. The use of experimental teaching in electronic and electrical teaching can enhance students' theoretical literacy and practical ability. Good experiments can help students develop the ability to collect data and analyze data. Students develop the ability to design engineering and design components and design systems in practice. Teachers guide students to practice learning, apply modern tools and new era technology in their studies, and help students learn to use modern science and technology. Good practice teaching is fully serving modern classroom teaching, improving the proportion of research and innovation experiments, and enriching the content system of scientific research. The teacher will improve the teaching environment, which will enable students to form an innovative spirit in the invisible and improve students' practical ability.

6. ACTIVELY EXPLORE AND FORM VARIOUS FORMS OF ASSESSMENT METHODS

One of the important contents of experimental teaching is to organize assessment. In teaching, teachers should actively explore a variety of experimental assessment methods to help students develop experimental interest in the process of learning and develop professional competence in experimental teaching. When evaluating students, students' performance scores can be used in combination with student test scores. At the end of the evaluation, students' test scores are included in the test scores according to a certain percentage. The experimental curriculum teachers who are designed separately need to comprehensively consider the students' operational ability, experimental report, written test scores, oral test, etc. The students' overall scores are combined with the students' test scores and average scores. If the student's daily performance does not meet the required standards,

then the student will not be able to take the course assessment. Students' curriculum design and comprehensive innovation training can be assessed by means of project approval or by means of defense.

7. CONCLUSION

The scientific experimental teaching method can reflect the systematic, comprehensive and open characteristics of the experimental teaching link. It has been proved by practice that students' interest in learning and their ability to practice can be improved in scientific experimental activities, and can also improve the teaching effect and teaching level of teachers.

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