

Research on the Teaching Reform of "Analog Electronic Technology"

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Abstract: Analog electronic technology is a professional compulsory course of electronic information, automation, electrical engineering and automation in our school, and it is also one of the core courses, with its own system and strong practice. A large number of engineering cases are introduced into the teaching content, an innovative practical training mode is adopted, the integration of theory and practice is emphasized, and the practical characteristics of the teaching content are fully reflected through the teaching mode of "learning by doing" and "learning to do".

Keywords: Analog electronic technology, Strong practice, Teaching mode.

1. Introduction

This paper analyzes the process of "simulated electronic technology" teaching reform in our school, as well as the existing problems in education, and combines the teaching reform practice of the School of Information and Control of Shenyang Institute of Technology, and puts forward the methods and exploration goals for reforming the teaching mode of the course. After mastering the necessary knowledge, students begin to practice, accumulate knowledge and skills in practice, and finally realize the perfect combination of theory and practice, fully embodying the practical nature of curriculum teaching.

2. Cultivation of Ability

The teaching content is mainly based on practical application. This course mainly includes semiconductor devices, the analysis and design methods of the most commonly used basic electronic circuits (discrete device circuits and integrated circuits), mainly introduces the amplifier circuit composed of semiconductor transistors, multi-stage amplifier circuit, power amplifier circuit, differential amplifier circuit, negative feedback amplifier circuit, signal generation circuit, signal operation and processing circuit and DC regulated power supply.

3. Reform of Teaching Methods

Teachers practice the "mentor system" of bringing the old with the new to train young teachers, ensuring that every young teacher has an experienced and strong teaching ability

to guide and continuously improve the teaching level of teachers. Students are taught in small lab classes and practice while speaking. Ensure that every student can participate in the learning process throughout the course. Group discussions to fully mobilize students' enthusiasm for learning.

4. Reform of Curriculum Assessment Methods

This course uses a normal grade score of 10% of the total grade, including completion of assignments, stage tests, class performance, etc. In-class lab scores, accounting for 20% of the total grade. Practice reversal class and group discussion, through students' understanding of the key practical operation content, to achieve the flipped class of related content, and adopt the method of group discussion to achieve the purpose of in-depth understanding, accounting for 30% of the total score. The theoretical knowledge assessment score accounts for 40% of the total score. The ratio of the four parts is 1:2:3:4, highlighting the proportion of ordinary study and weakening the test score. Let students fully understand the importance of practical operation, and strengthen students' ability to apply theory to practice in the ordinary learning process.

In the past two years, the distribution of students' examination scores has been developing in a good trend, which is in line with the students' learning conditions. In the second semester of 2021-2022, the results of students in 20 automation classes, 20 electrical 6 classes, 20 telecommunications 4 classes, and a teaching class of 20 electrical 1-2 classes were selected for statistics, and the distribution is as follows.

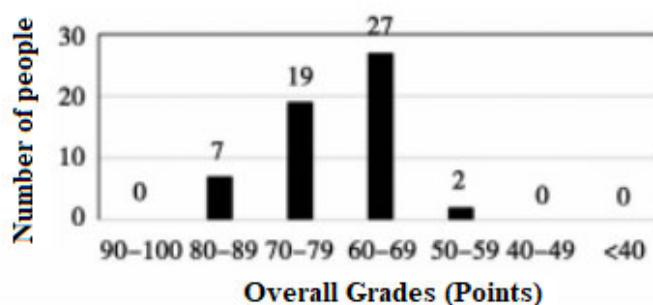


Figure 1. Electrical Class 1 ~ 2 Total Grade Distribution Map

The second semester of 2018-2019 adopted 10% of the total results, including homework completion, attendance, classroom questions, etc. In-class test scores, accounting for 20% of the total score. Comprehensive skills assessment score, accounting for 30% of the total score. Theoretical knowledge assessment score, accounting for 40% of the total score. On the basis of satisfying the learning of this major, strengthen the ability of theory to apply to practice. To lay a solid foundation for students to graduate, start a business and continue their studies.

The course results of the second semester of 2020-2021 are mainly composed of three parts: ordinary grades, experimental results and test scores, of which the usual grades (including attendance, homework, and classroom performance) account for 20%, the experimental results account for 30% (including the experimental usual and two experimental assessments), and the final course final examination results account for 50%. The difficulty of comprehensive skill assessment has been increased, and the experimental project assessment is divided into two comprehensive experimental assessments. The number of

questions in the final exam has been increased from the original 1 h exam to 1.5 h exam.

5. Conclusion

Through the reform of teaching through the integration of science and reality. The course has made certain progress in many aspects, such as curriculum content, experimental teaching reform, modern teaching methods, the application of online classrooms, and teachers' teaching standards.

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