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Research on Comprehensive Reform Method of Communication Electronic Circuit Course

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Abstract:"Communication electronic circuit" is an important professional basic course of communication engineering specialty. On the premise of carefully analyzing the problems existing in the current teaching of the course, according to the characteristics and training objectives of the course, this subject plans to optimize and reconstruct the teaching content, enrich the teaching resources, explore new teaching modes, adjust the assessment methods, reform the experimental teaching.

Keywords*: Virtual Experiment; Communication Electronic Circuit Curriculum; Teaching Reform*

"Communication electronic circuit" is an important professional course which includes the working principlehigh-frequency small signal amplifier, power amplifier, oscillator, Modulation and demodulation, feedback control circuit, etc.On the premise of carefully analyzing the problems existing in the current teaching of the course, this subject plans to optimize and reconstruct the teaching content, enrich the teaching resources, explore new teaching modes, adjust the assessment methods, reform the experimental teaching.

I. PROBLEMS IN TEACHING

Communication electronic circuit mainly studies the characteristics of electronic circuit under high-frequency working state. The theoretical analysis involved in the course is very abstract. Students are often afraid of learning and analysis, and the learning effect is not ideal.[1].In the past, the course of "communication electronic circuit" was a traditional classroom teaching dominated by teachers. Teachers paid too much attention to the quality of "teaching", but ignored the quality of students' "learning". Teachers spend a lot of time on careful lesson preparation, but lack of requirements and supervision for students. Students only passively accept the content of "teaching" in class and rarely actively participate in classroom teaching activities. As a result, teachers complain that students do not love learning, students complain that teachers are boring in class, and there is a lack of effective communication and interaction measures between teachers and students and students. Therefore, we should reform the traditional teaching methods and the teaching process in order to improve the teaching quality of the course.

II. CONTENT OF TEACHING REFORM

The tasks and main contents of the curriculum reform of the project include:

1). Optimize the course teaching content and enrich teaching resources.

Combined with the characteristics of the rapid development of the communication industry, and based on the principle of "neglecting formula, emphasizing essence and grasping application", this paper combs, optimizes and reconstructs the teaching content of the course of communication electronic circuit. By adding more teaching resources related to industry application and industry development, enrich teaching contents and improve students' interest in learning. Starting from the reality of engineering, cultivate students' practical ability.2. Improve teaching methods and means, make use of and integrate a variety of classroom teaching methods, and actively explore new teaching modes. Some principles in communication electronic circuits are difficult to understand, and the concepts are abstract and boring. Students' interest in learning can be stimulated by changing teaching methods and means. By changing teaching methods and means, stimulate students' interest in learning and improve teaching quality.

2). Reform the course examination and assessment methods and formulate clear, specific, open and transparent process assessment standards.

At present, the assessment of the course is mainly based on the final examination, supplemented by homework, attendance and other usual results. As the final assessment result, the assessment indicators are not clear and specific, and it is difficult to be fair and effective. This curriculum reform should focus on changing this way of summative learning evaluation, strengthen process learning and process evaluation, and formulate clear, specific, open and transparent process assessment standards. Through the change of assessment methods, guide the transformation of students' learning methods, improve the initiative and effectiveness of learning, and gradually transition the assessment content to the assessment of students' practical ability and theoretical ability.

3) Expand practical teaching links, develop virtual experiments and move them into the classroom

The communication electronic circuit has the characteristics of high working frequency and serious influence of circuit layout and distribution parameters, which makes the communication electronic circuit difficult to experiment and practice. Students' understanding of circuit characteristics and the relationship between circuit characteristics and circuit component parameters is not deep enough. Develop virtual simulation communication electronic circuit, simulate the learned content through computer simulation software, and intuitively feel the influence of circuit parameters on circuit performance[2]. Accept new knowledge and technology in the simulation experiment, and constantly verify the correctness of their imagined problems through the convenient and fast experimental process, so as to imperceptibly cultivate the innovation consciousness and innovation spirit. At the same time, another advantage of developing virtual simulation experiment circuit is that virtual simulation experiment can be moved into the classroom, so as to teach while learning and

practice. The theoretical knowledge learned can be verified by simulation in time, which can help students digest and absorb the learned knowledge quickly and firmly.

4) Build an information-based network teaching platform and strengthen the management of teaching process

Information network teaching platform is an effective way to expand classroom teaching to online teaching. It can make teaching not limited by time and place, better combine "offline" and "online" teaching, and better provide services for teaching.

CONCLUSION

In view of the problems existing in the teaching of communication electronic circuit, this paper puts forward some reform measures. Teaching practice shows that through teaching reform, students' learning enthusiasm and initiative are fully mobilized, students' ability to analyze and solve problems is improved, and the teaching quality of the course is improved.

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