

The reform and research of "emulation electronic technology" course in innovative personnel training mode

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Key words: Innovative, the pattern of personnel training, Analog electronics, the curriculum reform.

Abstract. In 2015, our institute proposed a professional transformation and training of innovative professionals. As an important basic course in electrical engineering, analog electronic technology must be reformed. This paper expounds the reform of the course of "analog electronic technology" from three aspects: theory teaching, practice teaching and examination mode reform.

1. Introduction

Nowadays, the cultivation of innovative talents has become the basic project of the strategy of China's talent power. "Innovation is the soul of a nation. It is an inexhaustible source of prosperity for a country. The key to innovation is talent, and the growth of talent is in education." The application of education is very important to the cultivation of creative talents. Our school has a unique, high level and applied technology university. The "3 + 1" talent culture model was proposed in 2011. In 2015, we proposed a professional transformation and training of innovative and specialized technical personnel. The so-called creative talents, are the talent with innovative spirit and innovation ability, usually show the individual character of flexible, open, curious, energetic, persistence, concentration, rich imagination and the characteristics of adventurous spirit, etc. Therefore, the cultivation of innovative talents is bound to change the traditional curriculum. Analog electronic technology is one of the most basic courses in the field of science and technology. It plays an important role in the whole teaching system of electricity majors. Now "analog electronic technology" still use the traditional teaching means, this course is allocated in backward old teaching materials, teaching methods, class hours is not reasonable, old exams, not compound applied personnel training requirements.

Based on the above reasons, we aimed at innovative talent training mode of "analog electronic technology" course requirements, fully considering the characteristics of the course itself and the actual situation of the students in our school, "analog electronic technology" course for the comprehensive reform and practice. This paper mainly discusses the reform of theoretical teaching, practice teaching, teaching method and examination mode.

2. Reform of theoretical teaching

The training of innovative talents education is different from the normal high education, and the innovative people demand the most advanced and cutting-edge technology. Therefore, in the selection of the textbook, the reform should be made first. Currently, our hospital adopts the "analog electronic technology", which is edited by kang hua guang. This book is the "15 planning textbook". As high typically take an examination of the first choice of teaching material, its theoretical particularly strong, suitable for theory of student learning, but also as a general colleges and universities graduate exam course teaching materials. Our school develops the innovation application type talent, therefore the theoretical teaching weight is relatively weak, and this material is not suitable for our college students. The teacher should choose the teaching material that is practical and advanced. It also encourages teachers to write textbooks suitable for students according to the characteristics of the students.

Based on the needs of innovative talents, our college has established the mode of cultivating talents with the combination of school enterprise and engineering. Therefore, the content of the lecture should

be added and deleted according to the requirements of the enterprise, and the enterprise should also participate in the reform of the curriculum.

3. Practical teaching reform

"Analog electronic technology" is a specialized, practical, specialized basic course. So this course offers 16 hours of experimental courses. Our hospital mainly offers eight experiments: one transistor is a common emitter single tube amplifier; Experiment two emitter output device; Three field-effect tube amplifiers; Experiment four differential amplification circuit; Experimental 5 integrated operational amplifier basic application (analog computing circuit, waveform generator, active filter circuit, voltage comparator); Experiment 6 dc voltage stabilized power supply (series transistor stabilized voltage power supply, integrated stabilizer); Experimental seven RC sine wave oscillator; Experiment 8 OTL power amplifier. All of these experiments were validated. In order to cultivate innovative talents, we should open more design and comprehensive experiments. The verification laboratory solidifies the theoretical knowledge in the student's course and deepens the understanding of the theory knowledge. It can be set up as three validation experiments. The design experiment is to exercise students' innovative thinking and cultivate students' ability of innovation. Three design experiments can be set up. The comprehensive experiment is to exercise the comprehensive ability of the students to learn the knowledge in this course, and can set two comprehensive experiments. The ratio of verification, design, and comprehensive experiments was 3:3:2.

Reform curriculum design. The course design is an important part of the practice of the "analog electronic technology" course. The course design can test not only the degree of the student's theoretical knowledge, but also the ability of the students to do it. The course design of our college is scheduled for a week in 16 weeks and takes the form of a class design topic. In recent years, our hospital has mainly adopted the topic of radio production. The college is buying radios for students and a set of hands. In the course of the lecture, the teacher will make a final decision to receive 3-4 radios. The whole course design lacks innovation, the students follow the teacher's instructions blindly, follow the assembly instructions. Throughout the course design, the student is an operator rather than a designer, losing the meaning of course design. The course designed the whole class to cover up the student's design philosophy. Therefore, because of the disadvantages above, we must reform the curriculum design. First, the topic should be diversified. The topic is to start from two angles: the teacher and the student. One is that teachers give five to ten questions based on the actual situation of their students. Secondly, students can design the topic according to the content they are interested in. Second, the course design process also breaks the traditional teacher's form. Take the group teaching, divide the students of the design research content into one group, the teacher has the pertinence to explain. During the whole course of the design, the teacher's lecture station 20%, the teacher instruction accounted for 30%, the teacher's question is 50%. Give the students time to imagine their own design and completion, and the teacher can only act as a pretense, rather than a leading role.

4. Examination reform

"Emulation electronic electronic technology" is an important professional basic course, most colleges and universities adopt the closed-volume theory exam. In the early days of our college, this method was used to assess students' knowledge of books. But due to the requirements of innovative personnel training mode, not only to assess students' mastering theory knowledge, more important is to assess school theory with practical ability. Therefore, the evaluation method of "2 + 3 + 5" was adopted for the reform of the appraisal system. 20 percent of the time, including students' attendance, homework, the usual test, and answering questions in class. The examination accounted for 30% of the examination, including attendance, laboratory report, laboratory operation and examination, etc. The examination is 50%. There is a requirement for the problem set: the first one should be varied; The second question is not limited to books; The third topic should be combined with practice.

5. Conclusion

Through the above reform, the "analog electronic technology" course teaching conforms to the model of innovative talent cultivation. It has enriched the students' theoretical knowledge and strengthened the ability of students to practice and innovate. It provides a solid foundation for students to learn the following courses. Improved the ability of students to adapt to the job, improved the student's employment rate, and established a good reputation among the employers.

Acknowledgments

The advanced education institute in jilin province will be the subject of high education research in 2017. <The study of the training mode of compound personnel for electrical engineering in collaboration with university enterprises >.Project approval number: JGJX2017D280

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