



Practical Research on the Teaching Reform of The Course “Mechanical Foundation”

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ABSTRACT

Aiming at the problems existing in the teaching reform of mechanical foundation course, such as old teaching mode, poor practical teaching means and lack of innovative thinking training. In order to realize the reform of teaching contents and methods and effectively promote the improvement of students' ability, it is necessary to improve teaching contents, innovate teaching methods and strengthen the design of practical teaching links and innovative thinking ability cultivation schemes.

1. Introduction

Mechanical foundation is a basic professional course that all students majoring in machinery must learn. By learning mechanical foundation, students can have a preliminary understanding of mechanical related knowledge, which lays a foundation for further in-depth learning of mechanical knowledge and engaging in mechanical related work. Mechanical foundation is different from cultural foundation courses. In addition to the basic scientific content, it is also closely related to the basic knowledge, professional knowledge and production and processing of other majors. The teaching effect of the mechanical foundation course is related to whether it can lay a good

foundation for students' subsequent professional learning.

2. Problems in Traditional Teaching

There are two problems in the teaching of basic mechanical course in the current mechanical major, namely, the problems of students and the problems of teachers. First of all, students lack enthusiasm and initiative in learning basic mechanical courses, which greatly affects the learning effect of students. There are two main reasons for this problem. One is that teachers have poor teaching ability and improper teaching methods, which cannot arouse students' learning enthusiasm and make it difficult to guide students effectively. The other is that teachers' teaching mode is too rigid, which leads to students' lack

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of interest in learning. Secondly, it is difficult for teachers to get rid of the shackles of traditional teaching ideas and still adopt traditional teaching methods. In particular, many teachers lack of communication with students and pay little attention to interactive teaching. In addition, teachers do not have a good sense of innovation, lack of innovative teaching ideas, which leads to classroom teaching can not meet the learning needs of students, greatly affecting the teaching effect.

3. Practice of Educational Reform

3.1 Let Students Correct Learning Attitude, Correct Learning Concept

In the process of teaching, to improve the effectiveness of basic mechanical teaching in higher vocational colleges, we must first correct students' learning attitude. In the teaching process, the teacher needs to let the students have a basic understanding of the importance of the mechanical major, the role of the mechanical major and so on. First of all, let the students have a clear understanding of the purpose of learning. The ultimate goal of higher vocational education is to cultivate a group of talents with practical operation ability. Therefore, teachers must let students understand the ultimate goal of learning and future contributions to society. In the teaching process, teachers also need to consciously improve students' confidence in learning and regain their confidence in learning. Both theoretical and technical talents are talents who can contribute to the society.

3.2 Highlight Key Points and Do Subtraction Well

The course content of mechanical foundation is divided into four parts: mechanical transmission, common mechanism, shafting parts and hydraulic transmission. These four parts are both related and independent of each other. Each chapter introduces a lot of content, for higher vocational students, these contents are complex and not easy to understand. Therefore, in the teaching, the key content should be highlighted, and the common content in the production and life of students should be explained in detail. The restriction of chapters should be broken, the knowledge points should be explained throughout, and the coherence of knowledge should be strengthened, so as to facilitate students' understanding and memory and to form a systematic knowledge structure. The content such as derivation and proof with too much depth and too much theory is greatly reduced, and higher vocational students' acceptance of theoretical knowledge is not high, which is easy to cause students' troubles, but affects the teaching effect.

3.3 Use Modern Teaching Methods to Stimulate Students' Interest in Learning

Multimedia courseware featured a lot of application examples of mechanical products photos and videos, content involves machinery, engineering machinery, construction machinery, light industrial machinery and so on, in order to abstract the mechanism analysis and parts from practice about the design of the structure and, inspired by the students understanding, understanding and the understanding of these working principle, composition and characteristics of mechanical products, etc.; Courseware made use of the advantages of multimedia integrated, very good to solve the teaching difficulty of the traditional teaching, for example, using dynamic graphical images of CAI, can represent the gear of selecting such assignment process and principle of selecting such assignment, belt drive in the stress change during the process of movement and distribution of elastic sliding phenomenon, the failure mechanism of gear and so on.

3.4 Strengthen Practical Teaching

Vocational education emphasizes the practicality, openness and professionalism of the curriculum. Therefore, while paying attention to theoretical teaching, it is also necessary to strengthen practical teaching. Instead of the verification experiment in the teaching practice, increase the applied experiments, such as open thread disassembling training, coupling disassembling training, disassembling reducer disassembling training, internal combustion engine and map mechanism kinematic sketch training, etc., also can add to the factory to visit internship, through these training can not only enhance students' understanding of relevant knowledge, also can strengthen students' practical ability, consciousness and the professional ability of students to form project will play an important role.

3.5 Reform the Assessment Method

The main purpose of setting up the examination link is to help students see the difference between themselves and other students more clearly, find the deficiencies of learning in time, strengthen the learning and accumulation of knowledge, and cultivate their innovation ability. At present, the assessment is mainly carried out through closed books, which is conducive to the theoretical learning of students, but will have a negative impact on the monitoring of students' practical ability. In the course design, the comprehensive application ability of students should be tested, and the data analysis, knowledge application and comprehensive judgment of students should be monitored in a diversified way. At present, many students are unable

to study engineering problems comprehensively and solve them effectively

Problems arising from the project. In order to further promote the reform of assessment methods, comprehensive assessment methods should be adopted in the teaching process to promote the improvement of students' ability, and comprehensive assessment should be conducted in combination with daily performance, closed-book assessment and practical achievements, so as to better evaluate students' ability comprehensively.

4. Conclusion

Strengthening the design of education and teaching, improving the quality of education and teaching, and strengthening the design of practical teaching links and innovative thinking ability cultivation schemes are of great

significance for promoting the improvement of students' ability.

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