

Research and Practice on the Training Mode of Applied Talents for Mechanical Specialty under the Mechanism of Collaborative Innovation

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Abstract. Under the new situation, with the continuous development of society and the times, the standards for talents majoring in machinery are also getting higher and higher, and more people with comprehensive application-oriented talents are needed. Therefore, combined with the corresponding professional teaching, Should carry on the mechanical specialty application-oriented personnel training pattern optimization and the innovation.

Introduction

The teaching of mechanical specialty should be carried out in combination with the corresponding theoretical teaching and practical organization, so as to improve the students' ability to understand and master the foundation of the major, and to cultivate more comprehensive applied talents for the society. This paper studies the concept of collaborative innovation, and puts forward the corresponding measures and suggestions for the application-oriented talents training mode of mechanical specialty.

The Proposing and Significance of the Idea of Collaborative Innovation

In 2012, the Ministry of Education and the Ministry of Finance jointly launched the innovative capacity improvement Program for institutions of higher Learning (Plan 2011). This plan mainly combines the needs of talents in the process of development of society and times, and various factors such as discipline teaching and scientific research, and includes them in the practice of educational reform and innovation, with the help of the corresponding collaborative innovation center. In order to realize the deepening reform of university education, it is necessary to establish the corresponding cooperative innovation mode of culture inheritance innovation, industry, regional development and discipline frontier, in order to realize the deepening reform and continuous improvement of innovation in colleges and universities.

For the teaching of mechanical specialty, if we only rely on the teaching work of colleges and universities to realize innovation, it will certainly affect the actual teaching quality and effect. In addition, we should develop the teaching of mechanical specialty with the help of the advantages of this major and the practical ability of application, and actively construct the mode of collaborative and innovative application, and apply it actively to the development of economy and science. This is of great significance to the continuous improvement of mechanical specialty teaching and the construction of scientific research platform [1].

With the help of the establishment of collaborative innovation projects, more high-quality and high-quality scientific and technological talents can be attracted to colleges and universities to engage in teaching and research, and to actively engage in scientific and technological research and practical professional teaching. To cultivate more high-quality talents for social development and national education system. Thus it can be seen that the cooperative innovation mode plays an important role in the teaching and scientific research of mechanical specialty in the course of the application-oriented teaching reform.

Renew the Educational Idea and Determine the Training Goal of the High-quality Applied Talents

In the light of the opinions and guidance of the Ministry of Education on the work of educational reform, in the course of teaching work, we should combine the needs of society and the development of the times to cultivate a higher quality of professional kindness in the society. Therefore, it is necessary to deepen the reform of teaching content and construct a suitable curriculum system according to the situation of social and economic development. To strengthen the optimization and innovation of talent training mode and training mechanism, the innovation ability and consciousness of students should be placed in the important aspect of teaching training. In addition, the local economic development situation and the level of urban economic construction should be combined with the construction of higher-quality professional personnel, to constantly meet the needs of the society and the development of the times for high-quality professionals. To construct the training mode of high-quality professional application-oriented talents, we should adhere to the reform thought of "emphasizing moral character, thick foundation, wide caliber, multi-direction and strong application", and pay attention to the comprehensive quality education for students. Constantly highlight and emphasize the training of students' engineering practice ability teaching. In the practical teaching reform work, we should pay attention to the basic teaching of the students' mechanical specialty, strengthen the foundation, carry on the teaching guidance with the aid of the mechanical equipment and the corresponding basic knowledge of electricity, liquid and computer specialty. To set up a four-in-one course teaching system, we should pay attention to guiding and leading students to carry out professional application and practice, and constantly pay attention to individualized cultivation of students in the practical teaching process. Help students to achieve a more diversified and comprehensive development of knowledge and capabilities [2].

Keeping Pace with the Times, Supplementing, Perfecting and Carefully Designing Talents Training Scheme

In the formulation of the application-oriented talents training scheme, it should be carried out in the light of the actual development of the social times, which is of great significance for the professional training of high-quality and high-quality talents. In order to train students from major students to advanced engineering talents, it often takes more time to practice, at the same time, the requirements for students' knowledge and professional knowledge are higher, and students need to master a wide range of professional knowledge. At the same time, we also need to optimize the combination of the professional knowledge we have mastered [3].

Combined with the actual teaching scheme and talent training mode, although we can cultivate a certain number of professional talents, but the development of the social situation at this stage is constantly accelerating, if we want to cultivate high-quality talents more efficiently, It is necessary to combine modern science and technology and professional research results to do a good job in the adjustment of the training program. We should not only grasp the traditional teaching elements, but also optimize and integrate the historical elements in the light of the social development of the new situation, strengthen the absorption of professional knowledge, and set up more open areas for the cultivation of talents in professional teaching. At the same time, we should adhere to the train of thought of keeping pace with the times to optimize and adjust the talent training scheme, and better train the high-quality professional talents.

Therefore, in the light of the actual needs of social development and the laws of economic change in the market, we should pay attention to the formulation of professional personnel training programmes, and constantly improve and optimize the corresponding talents training programs. The requirements of professional knowledge, professional ability and comprehensive quality for the development of modern society are deeply studied. In the formulation of talent training mode, we should pay attention to strengthen the teaching reform, optimize the ratio of theoretical teaching and practical practice, and strengthen the effective combination of in-class teaching and extracurricular practice, in combination with the actual professional technology and professional theoretical

knowledge. The cultivation of applied talents should be combined with professional practice technology to increase the proportion of elective courses and plan to improve innovative credits. On the basis of cultivating engineering and technical talents, we should cultivate students' creative consciousness. At the same time, we should strengthen the integration and exchange of mechanical engineering technology-related courses, and improve the individual competitiveness of students in the follow-up employment and work [4].

To Create a Thick-foundation, Wide-caliber and Multi-directional Theoretical Course Teaching System

At present, with the continuous development of society, the needs of mechanical professionals are constantly changing. In order to carry out the teaching and training of mechanical professionals, we should pay attention to the design of the overall curriculum teaching system. We should combine professional scientific knowledge with practical basic knowledge and humanities knowledge, at the same time we should pay attention to the combination of theoretical teaching and practical guidance, basic knowledge and cutting-edge research results, as well as the combination of professional knowledge and management [5].

In carrying out the corresponding teaching organization and management, we should make a good penetration of the arts and science and strengthen the foundation of the students. In public courses, we should improve the proportion of the corresponding courses of general education and the necessary courses of humanistic quality, pay attention to the guidance and cultivation of students' scientific thinking methods, and constantly improve the depth and breadth of the courses. In the teaching process of mechanical specialty, we should do a good job in teaching organization according to the development of regional economic construction and the actual demand for talents at the present stage, and closely revolve around the modern mechanical design and modern mechanical manufacturing. The courses of mechatronics and die design and manufacture are set up in order to improve the depth and breadth of teaching and to form a professional training mode with profound characteristics. In the actual teaching process, the corresponding professional elective courses and public elective courses should be combined to establish the corresponding teaching platform. To integrate and improve subject knowledge, broaden students' professional vision, and strengthen students' practical ability in application.

Constructing the Open Practice Teaching System of "Combination of Inside and Outside Class and Modularization and Multi-level"

In the light of the actual teaching management of mechanical specialty, we should adhere to and follow the principle of practical teaching organization, adhere to the teaching aim of "imparting knowledge, cultivating ability, paying attention to innovation and improving quality". It is necessary to create the experimental conditions and environment which accord with the overall development of the students' comprehensive quality, pay attention to the optimization and integration of the students' experimental teaching, and set up the experimental teaching center of mechanical engineering with the combination of engineering teaching and practical teaching. And the modular structure is applied to the specialty teaching, so that the students can carry out the study and application practice more actively and independently in the actual teaching practice, and train the students' ability of self-design, self-compiling technology and self-processing. And do well the organization training of the experiment scheme, help the student to test the related performance more efficiently, optimize and integrate the actual design and analysis result, help the student to improve the innovation consciousness and the practical ability. In order to improve students' ability of application and practice, comprehensive, design and innovative experiments should be consciously increased in order to develop a certain teaching organization design [6].

To set up an engineering training center, the corresponding modern machining training center and electrician and electronics practical training center shall be established in the light of the students' learning needs and the needs of teaching organizations. Innovation practice training Center

and process equipment and Control training Center. Through the establishment of the corresponding engineering training center, the basic training and comprehensive training of the mechanical specialty can be effectively integrated as well as the corresponding development and innovation practice training, so that the students can be found in the engineering training center in China. It can effectively improve the ability of engineering practice and team cooperation, and also improve its own consciousness of innovation and lay a good foundation for the following practical teaching.

Actively explore the ways and means of industry-university-research cooperative education under the new situation, and the application-oriented personnel training mode of mechanical specialty should pay attention to combining with mechanical enterprises to improve students' practical ability in application, so in the actual teaching process, Relevant colleges and universities should strengthen school-enterprise cooperation, actively combine teaching, industry and scientific research to combine enterprises, in order to achieve complementary advantages. In this way, it can help to combine teaching training with the needs of talents in enterprises, so as to improve the corresponding teaching organization training, and create more opportunities for students to train vocational skills and apply engineering technology to practice. Lay a good foundation for students' follow-up work and employment [7].

Take the Second Classroom Activity as the Carrier, Pay Attention to the Student Comprehensive Quality Development

In order to improve students' professional practical application ability and cultivate students' creative consciousness, we should organize students to participate actively in the second classroom activities, organize and create extra-curricular science and technology competitions according to the characteristics of practical specialty teaching. From this to mobilize and inspire students' innovative thinking, better improve the comprehensive quality of students. In the practical teaching organization and management, we also need to strengthen the training of the students' skills foundation, which can lead the students to participate in the practical metalworking practice, numerical control machine tool operation, technical measurement, and so on. Constantly improve students' practical professional knowledge application ability. Of course, combined with the actual teaching work, teachers should organize students to participate in the corresponding mechanical innovation design and electronic design competition, so as to help students improve their corresponding technological design and creative consciousness of thinking. Better stimulate students' enthusiasm for innovation. This has a good effect on improving the students' comprehensive quality and the application ability of professional knowledge [8].

Strengthen the Cultivation of Students' Practical Ability and Knowledge Application Ability, and Realize the Reform and Innovation of Talents Training Mode

The teaching of mechanical specialty should closely combine the professional theoretical knowledge and the corresponding training of mechanical technology production and technical skills, and combine the actual engineering training center of the innovation base of college students. Students should be more actively involved in mechanical innovation, so that students can increase their understanding of advanced manufacturing technology and equipment, as well as the corresponding mechanical manufacturing process, in the innovation of mechanical specialty. Better broaden the students' professional vision. In addition, it is necessary to guide students to carry out technical operation practice by combining typical parts designed by students in numerical control equipment, so as to improve students' practical skills and practical ability. Of course, it is necessary to strengthen the three-dimensional modeling software for students with the help of the innovation base of college students and the hardware equipment and environment of mechanical engineering teaching base in the applied organization teaching of mechanical teaching, such as Pro/E,UG and finite element analysis software ANSYS training. Under this kind of practical teaching mode, it can effectively improve students' knowledge application of more comprehensive specialty, improve students' comprehensive quality and skills, and lay a good foundation for students' subsequent

employment and personal development.

Conclusion

Overall, social development needs more and more comprehensive application-oriented talents to promote the good development of enterprises. In combination with the teaching of mechanical specialty, we should renew the educational idea, determine the training goal of the high-quality applied talents, keep pace with the times, supplement, perfect and carefully design the talents training scheme, and build a thick foundation. A wide-caliber and multi-directional theoretical teaching system is established, and an open practical teaching system of "combination of inside and outside class, modularization and multi-level" is constructed. At the same time, it is necessary to carry out the second classroom activities, pay attention to the development of students' comprehensive quality, strengthen the cultivation of students' practical ability and knowledge application ability, and constantly realize the reform and innovation of talent training mode.

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