Summary of the Construction of Excellent Course of Automobile Service Engineering in Panzhihua University

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Keywords: Automobile Service Engineering, training objectives and standards, teaching reform, outstanding engineers, practice ability training

Abstract. Traffic and automotive engineering have been building since the school's Automobile Service Engineering Program has become an excellent engineer project. The institute began to complete the overall thinking and development standards of the plan for Educating and Training Outstanding Engineers of car service project, identifying the overall plan, restructuring the curriculum system of Automobile Service Engineering Program, strengthening the combination between school and enterprise. Schools and businesses make training plans together, carrying out teaching innovation of Automobile Service Engineering Program to cultivate outstanding engineers. In the same time, schools and businesses try hard to strengthen the construction of practice base combining with the teaching mode reform, carrying out access and exit mechanism to insure the quantity of talent cultivation. We reformed teaching content and methods and emphasized to improve practical ability. These works have been completed in the main when students are in the second-year class. This paper sums up the phased work in order to perfect related work.

Introduction

We make steady headway in pilot work since the school's Automobile Service Engineering Program has become an excellent engineer project. According to the talents training plan and the reality of school and students, we strengthen the connection between business and school, emphasizing the advantage and feature.

There has a clear general idea, training objectives, standards of Educating and Training Outstanding Engineers of automobile service engineering.

According to our school-running orientation, subject characteristics and the service-oriented, we demand students master the correct method of learning, working and thinking, cultivating their practicing ability and creativity spirits. Curriculum is a kind of carrier, and students need to master these methods by this carrier. This emphasis on the system construction of learning and practice which is taking the student as the main body. Teachers' role change from teaching into the mentor.

The overall objectives of Educating and Training Outstanding Engineers is cultivating students' innovation consciousness and creative ability, including problematic consciousness, consciousness of thinking, applying awareness, practical consciousness, value consciousness, creation awareness and founding time to solve problems. This core is strengthen the education and training of the engineering accomplishment, including science and engineering, engineering culture and engineering literacy.

We have been identified the overall plan and restructured the curriculum system of Automobile Service Engineering Program.

According to the principle of accurate positioning, the focusing to content building, the outstanding advantages and the characteristic intensification, constructing the advanced engineering
technology research and teaching platform. In the same time, accumulating and extracting the successful projects. And take this as teaching platform, setting up new training program, teaching program, curriculum system which is oriented towards engineering education.

Based up on the core problem of engineering education, we made a plan for teaching, set syllabus and strengthened the construction of course systems of public elementary courses, professional basic course, professional module group, elective courses of specialized, selective courses on humanities. In the same time, we strengthened the combination of school and enterprise, case teaching, project teaching, engineering teaching. We also emphasized students’ engineering practical ability and innovative consciousness. On the other hand, we through the 3 + 1 university-enterprise joint training mode to carried out the practice teaching and established teaching system which is composed by experimental teaching, design teaching and on-the-spot teaching practice. In this way, students can own the basic ability of product development, product design and manufacturing, product control and production management.

At undergraduate stage, the plan for Educating and Training Outstanding Engineers require that cultivating students practice ability and comprehensive quality besides their own major courses.

1) Students own the ability of learn knowledge, applied knowledge and Innovation. They can utilize synthetically correlative knowledge of engineering technology and optimize the technology we already have.

2) Students own the ability of the engineering practices. They can Innovative analysis problems and solve it by appropriate methods of theory and practice.

3) Students own the technical force and ability in leadership. They must have the very strong synthesizing capacity of technology, business and management and can led the team to complete the tasks effectively.

4) Students own the ability of interpersonal communication. They can demonstrate effective communication skills.

5) Students have good professional conduct and sense of social responsibility and sustainable development quality. They should demonstrate personal commitment of professional standard and realized their responsibility for social, professional and environment.

We strengthening the combination between school and enterprise and make training plans together.

Under the leadership of the plan for Educating and Training Outstanding Engineers, institute of Transportation and Automotive Engineering make training plan of Automobile service engineering bachelor programs(2012). According to the training plan and 3+1 talents training mode, Industry expert and us make professional teaching program together. This plan not only highlight the industry to participate and emphasize on practice, but also explicated the educational objectives. Our talent should cater to the needs of socialist construction, all-round development of morality, get the preliminary training of engineer, adapt the talents demands for the development of market economy, science and social. Furthermore, they should meet the practical requirements of related fields and research design Into production line. At last, they should own higher comprehensive qualities, innovation ability, a good team spirit and professional technical capability. This plan’s fostering standard not only require students’ elementary knowledge, but also emphasize their engineering practice ability, elementary knowledge of engineering management, participation ability, communication skills, excellent professional ethics and realized their responsibility for social, professional and environment.
We carry out teaching innovation in Automobile Service Engineering Program to cultivate excellent engineer.

Professional is the carrier of personnel training in colleges and universities, the standpoint of advancing the teaching reform and improving education quality. Its construction level and performance directly determine the quality and characteristic of personnel training. Carry out this project with the purpose of give full play to our institute's initiative, initiative and creativity. According with our college specialty orientation, subject characteristics and service directions, we confirm the goal of education and constructing emphases and improve the talent-producing program. On principle of accurate positioning, prominent dominant and strengthening characteristics, we promote overall reform including training mode, teaching team, course material, teaching method, teaching management and promote the overall promotion of the level of talent training, try hard to cultivate high-quality engineering talent by the way of indigenous design program. Around this project, our institute set policies to encourage teachers compiling of relevant teaching materials and making relevant theoretical investigation and a lot of results were obtained.

Schools and businesses try hard to strengthen the construction of practice base combining with the teaching mode reform.

The experimental class will actively explore new training model and develop innovative training plan. Integrated with the already have teaching team building, the core curriculum system construction, teaching mode reform, they promote, fuse and advance. Since the project approval, we start to explore good quality students, explore the implementation of 3+1 training mode, studying on campus three years and off-campus internship one year. And try hard to promote students' practice ability and improve talent cultivating quality.

We establish production-study-research cooperation demonstration base with Sichuan Nanjun Automobile Group, Zhejiang Zhongtai Automobile Manufacturing Co., Ltd, Sichuan Donglin brake Co. Ltd and Sichuan power industry and trade. In recent years, we signed a practice base construction agreement and joint training agreement with Ziyang CSR Co., Ltd, China Heavy Duty Truck Group Chengdu ace Commercial Vehicle Co., Ltd, Zhongche group Sichuan Danchi part Co. Ltd. Through the efforts of these practice bases, we can effectively ensure that students are able to obtain a solid training in engineering practice. On the other hand, these units can solve the practical problems in engineering and scientific research and bring in urgent needed talents. This is a win-win situation.

In order to strengthen students' practical ability training, the institute also attaches great importance to the campus practice platform construction, we signed a cooperation agreement to establish a practical education center with Panzhihua Xianglong Trading Co. Ltd. In the same time, school also pull out funds to build traffic and automotive engineering training center and the engineering innovation experiment center is set up. The construction of the campus practice platform provides powerful guarantee for students' practical ability training.

We carrying out access and exit mechanism to insure the quantity of talent cultivation.

We earnestly implement the ministry of education spirit of excellence program and related documents, relying on the advantage of characteristic discipline, based on the local economic construction and service Panzhihua western construction. And we reformed the talent cultivation mechanism, regarding the engineering education personnel training mode as the guiding ideology, cultivating senior engineering and technical and management personnel who are on the good thought quality, professional ethics and solid foundation of professional knowledge, strong sense of social adaptability, organizational leadership ability and creative ability, entrepreneurial spirit. According to the situation of student source and the principles of openness, fairness and equity, select a group of students who are own strong sense of social adaptability, engineering practice
ability, innovatory capability and good communication skills, getting the team together. Personnel selection is important premise. We need to give students enough time to consider and ensure strict selection conditions. We have to select the top students to set up an effective mechanism of access. This class is a group of outstanding students, must develop a complete access and exit mechanism to realize the reasonable turnover, so establish the exit mechanism is also very necessary. The selected students could be washed out by the relevant system if their exam results are not ideal. The unselected students could join in by the relevant system if their exam results are excellent and want to join in. Only by this way, this class is I always a good and live group.

According to the character, we set up teaching staff with the engineering background to Improve the quality of teaching.

Our institute organize the related teachers to Sichuan university and Chongqing university to study senior visiting scholar, arranging the related teachers to Xihua University to further education of Automotive Engineering, organizing core teachers to Nanjun Automobile Group to special study for half a month. All of those are lay the foundation for excellence program.

We reformed teaching content and methods and emphasized to improve practical ability.

As for teaching contents and curricular system, institute reduced the theory hours. According to the plan, we comprehensive reorganized a part of course, break through the limit from single discipline. We reconstructed the professional curriculum system by focusing on the core curriculum with comprehensive curriculum content and build part of the interdisciplinary integration courses. In view of the training session is not enough and the gap between the experimental course and the practical application in the traditional teaching model, we are driven by actual project cases, establishing the "big training" concept, breaking the boundaries of theory and practice. We transform the traditional curriculum system, focused on the systematization of learning and theory teaching, the theory and practice are relatively independent, into a new curriculum system. This one focused on the ability that solve the problem of engineering technology in the whole process from vehicles use, pay more attention to practical teaching and theoretical practice into one. Institute will set up self-study class to cultivate students' self - learning ability. In the meantime, we will strengthen the construction of curriculum resources and make a part of course become a web video. At last, gradually establish a three-dimensional teaching resources system. In terms of teaching methods, we changed the traditional way of teaching and updated teaching content, using the project as the carrier of the research-based teaching form. We hope that plans can be implemented at new students, the major professional basic courses and specialized courses using small classes in class form. In the course of teaching, teachers divided the students into groups to carry out the project study. Students write planning reports and implement programs and conduct a group reply. They need to pass before they can get credits. The main professional course adopts the engineer teaching mode which from the theory class, practice class, experimental class, extracurricular study of four parts. Such courses will greatly improve students’ coordination management capacity, practical innovation ability, teamwork and express communication skills.

We Reformed the assessment and evaluation methods, and guide students to improve the overall quality.

This evaluation needs to improve the existing teaching evaluation system and methods, the original standard is no longer applicable. The focus is not to assess the teacher's teaching is standardized, but the process and effect of teaching. The key is to see whether the teacher in the teaching process with the students to do the project. The new curriculum system examines the student's engineering capacity by different level and different stage. It combine of many kinds of means: open and close, team assessment and individual assessment, self - evaluation and mutual assessment, written reports and oral presentations.
According to this plan, institute will formulate new policy to recognize credit to participate in project research, participate in various competitions, participate in business practice, including the innovative Program for College Students.

References

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