

Exploration and Practice of "Dual Integration" Mode of Collaborative Production and Education in the Context of Applied Transformation---The Case of Automotive Service Engineering

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Abstract. The cultivation of applied talents of application under the background of transformation should be based on the requirements of professional talent cultivation orientation transformation, transformation, transformation of teachers, curriculum content, teaching conditions transformation and transformation of the five aspects of cultivating applied talents, follow the teaching theory of "integrated research", out of a "production" the direction of "learning" based on "research" as a link, "use" for the purpose of the school road. Jilin Teachers Institute of engineering and technology of automobile service engineering in accordance with the "solid foundation, thinking of running characteristics", continue to carry out innovative practice training mode combining the talents with research, and consider the discipline and specialty, the teaching and research of interdependent and coordinated development, to establish talent incentive mechanism and evaluation system the core of the evaluation, and take effective measures to mobilize the enthusiasm of teachers, improve teaching quality and academic level, innovating the mode of talent cultivation.

Application Transformation Training Mode

According to "lay a solid foundation, thinking of running characteristics", continue to carry out innovative practice training mode combining the talents with research, and consider the discipline and specialty, teaching and research are interdependent and coordinated development, to establish talent incentive restraint mechanism and evaluation appraisal system as the core, take the initiative effective measures to motivate teachers[1]. In the context of applied transformation, the "dual integration" mode of collaborative production, education and research is as shown in fig. 1.

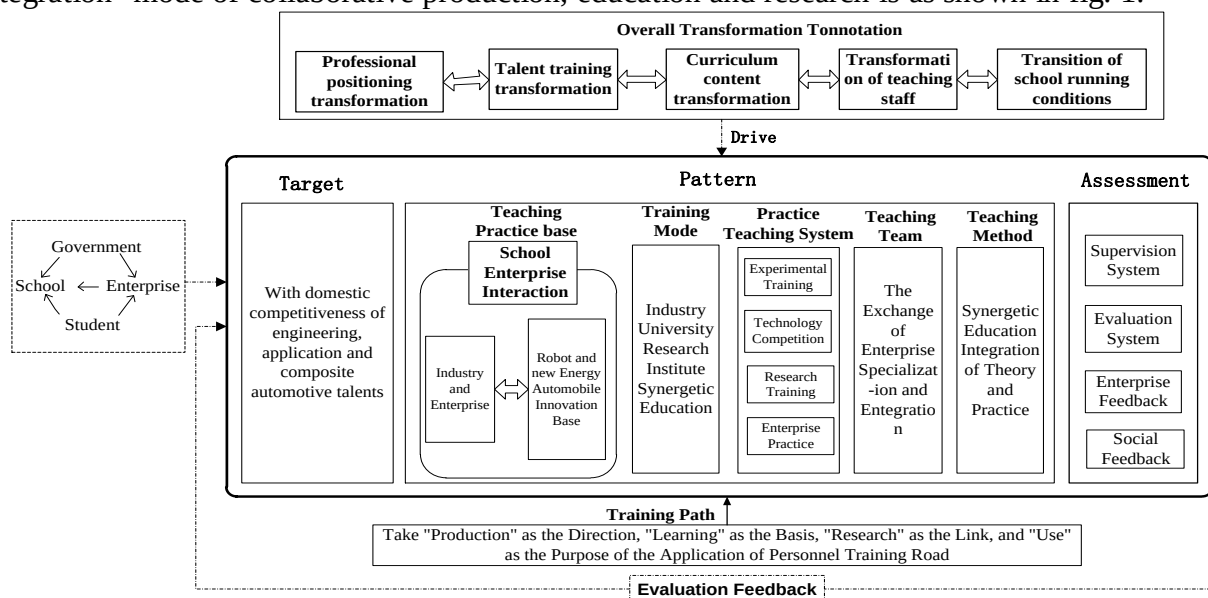


Figure 1. "Dual Integration" Mode of Collaborative Production and Education under The Background of Applied Transformation

Professional Positioning Transformation. Around the discipline structure adjustment of local industrial chain, innovation chain, transformation and integration of traditional professional, set up a compound formed around the emerging professional[2], machinery manufacturing, automobile and other related specialty cluster; relying on the school faculty professional Steering Committee, the establishment of industry and review mechanism set up by the employer participation of experts professional. The purpose is to adapt to the northeast and the Inner Mongolia area of the talent demand, theory and practice of cultivating middle school occupation professional car service field teaching work of the "double" teachers and automobile and parts manufacturing, automobile service enterprises or departments need hands-on application of diversified technical personnel ability, comprehensive quality good[3].

Talent Training Transformation. Relying on the application of transformation, the training mode of school enterprise integration, collaborative education depth research to establish various forms of design, invite employers involved in the personnel training plan and course system of the enterprise; to establish to improve the practice ability raise process for personnel training lead, the industry needs as part of the graduation design the origin, course content and implementation of occupation standard, the teaching process and the production process of docking; to reform the teaching methods, expand the learning autonomy of students[4], the professional education and entrepreneurship education closer integration, pay attention to cultivate students' innovative ability, employment ability[5].

Curriculum Content Transformation. First, adhere to the principle of applying what one has learned, and effectively improve the practicability of subjects, subjects and courses. Second, scientific research achievements can be transformed. With the development of the industry and local economic development oriented[6], carry out cooperation with the industry, on the basis of theoretical teaching and basic skills training combined with heavy events oriented, emphasizing the application of research and development, closely integrated courses, projects, and actual work demand. According to different business needs, for school enterprise cooperation. Take a cooperative mode different, set up different "studio", take double tutors, mentors for enterprises to hire more than students in our hospital to guide the establishment of innovation practice "course teaching mode of post -" replacement[7].

Teacher Team Transformation. Teachers, teacher training institutions and the structure adjustment of industrial enterprises to establish linkage mechanism combination, through training, enterprise training, cultivation of double double qualified teachers; on the other hand, the industry and enterprise human resources sharing, through the introduction of outstanding professional and technical personnel, management personnel and highly skilled personnel employment, part-time construction teachers. In addition, the reform of talent introduction, title evaluation, income distribution and other systems should be based on dual teacher type and dual energy type teachers.

Transition of School Running Conditions. The integrated teaching of classroom practice, training room, cooperate with enterprises and government to build a practical training base, base and employment base and innovation base of transformation, construction, and co-ordination of the practice teaching resources platform construction, various function intensive, resource sharing, fully open, professional and efficient operation cross professional class.

The Overall Transformation of the Development Model Driven

Objective of Application Transformation. Establishing the "lead enterprises into the school, lead the school to enterprise", building a double integrated collaborative research with education mode, continuing to promote research cooperation to develop in depth, and actively explore and open and mutual assistance with the new mode of cooperation, to build schools, enterprises and students between the "three party interaction, three party profit" open education mechanism, project type, Co culture with the domestic competitiveness of the application compound talents.

Exploration and Practice of Cooperative Education Model of "Dual Integration". Establish the "school enterprise interaction" teaching practice bases inside and outside the school. Double integrated collaborative research with education mode based on "branch will be more than

Small and micro businesses into robots and new energy vehicles entrepreneurship and innovation base, resources to provide a space for enterprise site equipment, stimulate the industry enterprises to increase cooperation innovation and talent training enthusiasm for investment, and make full use of the enterprise advanced technology, management mode and practical project for the branch to provide technical support and project support. Actively and enterprises set up campus practice, school enterprise practice two practice platform. Make clear the training mode of "research, production and coordination"[8]. Create "four in one" practice teaching system: (1) guide students to participate in experimental training; (2) guide students to participate in various competitions; (3) guide students to participate in scientific research and training; (4) guide students to participate in enterprise practice.

Establish "excellent teaching team, with professional and enterprise exchange", by participating in domestic training, training, research and technical service projects, the ability of key teachers in teaching, scientific research, curriculum development and professional practice has been improved. The use of automotive engineering, robotics and new energy automotive innovation base and the base for the advantages of enterprises, enterprises to enable teachers to participate in the actual project, the professional practice and technical service capacity has been significantly improved; at the same time also from the cooperation between colleges and enterprises employ technicians and engineers to the school as a part-time teacher, to participate in the training of teaching link in the form of "school enterprise exchanges, with professional and" excellent teachers team, realize school enterprise between talents and two-way transfer of knowledge [9].

Establish the teaching method of combining education with practice and integrating theory with practice. Branch and enterprise professional and technical personnel rebuild order class curriculum system, defined the core curriculum based on professional ability. The teaching mode adopts the mode of "integrating theory with practice", takes the project as the carrier, the practice as the guidance, and adopts the specialized teaching methods, such as guiding culture and education, and so on. It emphasizes the principle of taking students as the main body and cultivating comprehensive ability as the goal. Enhance the initiative, initiative and independence of students, develop their creative potential, and improve their creative quality and creativity.

Evaluation. Mainly from the monitoring system, evaluation system, user feedback, corporate feedback, social feedback and other aspects of evaluation. The establishment of "school - Enterprise - government - student" supervision and evaluation system, the school plays a very important role in the supervision and evaluation system. Through the graduate employment rate and the rate of independent entrepreneurship to evaluate the system of supervision and evaluation, and to evaluate the system through the use of graduates or interns. And according to the "open education based on local, industry oriented enterprises, relying on regional service" principle, strengthen cooperation with industry, enterprises, industries and enterprises to play a guiding role in the transformation and development of schools, enterprises and institutions invited professional and technical personnel and management personnel to participate in a full range of professional settings and construction, school personnel training and system construction the design, to achieve professional and industry or business requirements between the docking, the formation of social reflection.

Path. Follow the "production of" integration of teaching philosophy, out of a "production" as the direction of "learning" based on "research" as a link, "use" for the purpose of the school road, set up a "research" by school enterprise cooperation teaching guidance committee responsible for the development of talents cultivation evaluation target and teaching quality assurance specifications standard examination syllabus, training programs and curriculum; curriculum system to meet the needs of enterprise construction consists of the characteristics of teacher and industry enterprise teacher teaching team, and the specific design for teaching plan, provide a solution for the construction of professional construction, curriculum reform, cooperative education, school practice and training base, organization with professional and school enterprise double tutors training teaching process of [10].

Evaluation Feedback

In the training mode of "cooperation in industry, University, research and production", the coordination mechanism of cooperation between leaders and students should be established, and the evaluation and incentive mechanism which is beneficial to industry university research cooperation should be established and perfected. The school and enterprise set up teaching guidance committee, teaching team and management team to train talents in cooperation with industry, universities and research institutes. They are responsible for the formulation and revision of training programs, and the implementation and monitoring of training programs. With the needs and satisfaction of employers as the primary standard, a deep cooperation system between schools and enterprises should be established to enable the industry and enterprises to participate in the whole process of teaching, so as to ensure the quality of personnel training.

Summary

On this basis, between the practice of school enterprise talent and knowledge to cooperate in the two-way transfer, training program, curriculum, student selection, selection, evaluation and teacher employment guidance for enterprises to participate in the training process, and students to participate in the enterprise scientific research item "two-way participation" as the way to get through the school of applied talents enterprise integration channels.

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