Analysis on the Cooperation Mode of Robot “Industry College” Based on School-Enterprise Integration

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Abstract. The “1+1” school-running model of the Robot Industry College integrates vocational and technical teachers’ colleges with high-quality enterprise resources, giving full play to the advantages of both schools and enterprises, and will train more qualified personnel. This article starts with the cooperation goal and cooperation content, and imagines the cooperation mode of the Robot Industry College.

Keywords: Robot, Industry College, School-Enterprise Integration

“Made in China 2025” proposes to adhere to the basic policy of “innovation-driven, quality-first, green development, structural optimization, and talent-oriented”, adhere to “market-led, government-led, based on the current, long-term perspective, overall advancement, key breakthroughs, The basic principle of independent development and open cooperation, through the “three steps” to achieve the strategic goal of manufacturing a strong country. We are in the new era of technological change. In fact, the biggest challenge we face is education change. The transformation of education is the key to the evolution of the technological revolution into a social revolution in the next 30 years.[1]

The Robot Industry Institute will adopt the “1+1” school-running mode, that is, vocational and technical teachers colleges and universities integrate resources with high-quality enterprises, give full play to the advantages of both schools and enterprises, and play the role of vocational and technical education for society, industry and enterprises, and cultivate enterprises. More high-quality, high-skilled application talents, but also provide more space for students internship, training, employment, and scientific research. [2] On the basis of equality, voluntariness and full elaboration, we will achieve complementary advantages and mutual benefit.

1. The Cooperation Goal

1.1. Relying on the relevant majors of the school, the joint venture will jointly establish the College of Robotics Industry, and the College will unite with the Artificial Intelligence Society to build a regional industry-university-research system.

1.2. Jointly implement the school-enterprise joint training talent model, foster a new educational
mechanism suitable for the rapid growth of talents in the robot industry, and build a talent transmission channel that meets the development needs of enterprises.

1.3. Resource sharing to achieve more extensive and in-depth cooperation between the two parties in teaching and research, technical training and enrollment and employment.

2. The Cooperation Content

2.1. Construction Robot Industry College
The establishment of the College Robot Industry College will provide the venue for the construction of the Robot Industry College. The school and the enterprise will jointly provide the teaching resources needed for the construction of the Robot Industry College, and jointly create practical teaching and professional quality training, vocational skills training and appraisal, and robot teacher training.[3] And the development of the R & D, production and application of new technology and other multi-functional integrated teaching base. Grasping the entry point of applied undergraduate colleges to serve local industry development, deepening the cooperation between schools and enterprises in applied undergraduate colleges; grasping the focus of applied undergraduate colleges to serve local industry development, actively connecting local industry needs, and promoting applied undergraduate colleges The school is deeply integrated with the local industry.

2.2. Create a Learning Factory
Through effective operation, the company introduces the business model in the Robot Industry College, simulates the real enterprise environment to train students, and closely combines student entrepreneurship, enterprise training, and enterprise operation, and transforms the Robot Industry College into a learning factory. City, the robot industry facing the three northeastern provinces.

2.3. Joint Professional Construction
In order to cultivate practical, compound, and skilled talents, both schools and enterprises will build robots for existing or new majors on the basis of existing schools, and jointly develop talent training programs that meet the needs of enterprises, and train robot talents. And build a flexible curriculum system in the curriculum; explore the teaching model that is driven by industry demand and with practice as the core.

2.4. Co-curricular Construction
According to the needs of the cooperation projects of the two parties, around the training of robot talents, with the help of the teachers of colleges and universities, combined with the technology of the enterprise, jointly develop professional courses suitable for applied undergraduate colleges, and introduce the classic cases, engineering projects and corporate culture to enrich the teaching content. Improve the teaching methods and promote the application in practical teaching.[4]

2.5. Jointly Building the Faculty
The school dispatched senior scientific research personnel and technicians to teach in colleges and universities, and provided technical support and professional skills training. [5] The school hired professional and technical personnel and management personnel with rich practical experience and high theoretical level as student tutors. At the same time, the school selects teachers to send training to enterprises to learn the frontiers of scientific research in related disciplines; enterprises hire experts and professors with outstanding achievements in relevant fields of the university to serve as technical guidance or technical consultants for production and management of the company.

2.6. Joint Internship Employment
As the school's off-campus training and employment base, the enterprise should arrange school
students to practice internships in accordance with the professional talent training program. [6][7] The enterprise should give priority to recruiting graduates from cooperative schools under the same conditions. The school invites employers to participate in the school organization every year. The supply and demand negotiation meeting for graduates in the university will give priority to delivering outstanding students with comprehensive development of morality, intelligence and physical fitness.

2.7. Teaching and Research Interaction
With the Robot Industry Institute as the platform, and the Jilin Provincial Institute of Artificial Intelligence, etc.[8][9] the school sends teachers to companies for training and conducts a full range of regional production, research, and research interaction. At the same time, both the school and the enterprise will jointly seek research projects, teaching carriers and further explore student training programs for local enterprises.

2.8. Cooperation in Innovation and Entrepreneurship
The company introduced a business model in the Robot Industry Institute to simulate students 'real-life business environment. The company assigned 3-5 scientific research experts to help train students' scientific research and innovation capabilities, and acted as student innovation and entrepreneurship mentors to assist students in innovation and entrepreneurship[10]. Combining the three aspects of student entrepreneurship, corporate training and corporate operations, it provides an ideal environment for application-oriented undergraduate colleges to cultivate students' practical abilities, nurture modern business consciousness, familiarize themselves with technical specifications, and master industry standards.

2.9. Vocational Skills Training
As a talent training base for enterprises, the school should make use of the college's software and hardware teaching resources, advanced scientific research conditions, and provide enterprises with talent training services including various types of employee vocational training and skills certification[11]. As the training center of the company in the three provinces of Northeast China, it will be responsible for the new product debugging, user training, and after-sale base of the company in this area.

The two parties will regularly conduct phased summaries on the implementation of the cooperation and the implementation of the agreement through visits or discussions.

3. Rights and Obligations of Both Parties

3.1 The School Regards the Enterprise as the Student's off-site Internship Training Base.
When arranging students in the school for internship training and other work, the partner enterprise is preferentially selected as the implementation unit of internship training;

3.2 During the internship training of the school students in the cooperative enterprise, the school must assign full-time professional teachers to serve as guidance teachers to cooperate with the internship training of the enterprise management students.

3.3 The school shall assist the company in selecting and recruiting graduates according to the employment requirements of the company, and assist in providing the test results and school performance of the recruited students.

3.4. The school recruits qualified personnel of the enterprise to enter its professional teaching steering committee, and the three parties regularly communicate related matters on school-enterprise cooperation.

3.5. At the request of the school, the company provides reasonable suggestions from the perspective of
the company on the talent training program for school robot-related majors.

3.6. According to the school's talent training plan and curriculum practice arrangement, the company provides the school with a detailed training plan for the core robotics practice course, selects outstanding lecturers as part-time teachers in the school, and undertakes teaching tasks to ensure the quality of teaching.

3.7. According to the school's talent training plan, the company accepts students from partner schools for internship training, and is responsible for formulating and implementing the curriculum system and talent training plan during the internship training with the school.

3.8. According to the actual needs of the school and the business situation of the company, the company assigns technical experts to the school for technical communication or lectures at least once every semester.

3.9. The enterprise provides schools with internship training venues and course teachers, and implements supervision and control of teaching quality to ensure high-quality and efficient teaching quality [12].

3.10. The enterprise shall provide teaching and living hardware facilities, including workplaces, recommended dormitories, etc. to students for internship training, and pay students in accordance with the requirements of relevant documents.

3.11. Enterprises need to purchase liability and accident insurance for interns.

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