Research and Practice on Talent Cultivation Mechanism of Modern Textile Specialty Group Based on School-enterprise Double-subject Running School System

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Abstract. The construction of professional groups has become an important way for higher vocational colleges to achieve coordinated development of scale, structure, quality and efficiency. Relying on the regional industrial cluster, the Yueda Textile Industrial Park cooperated with the school-enterprise to co-build a "double-subject" Yueda Textile Institute. This paper puts forward specific measures and characteristic innovation points for the construction of modern textile specialty groups under the school-enterprise double-subject school running system, which promotes the comprehensive and deeper reform of education and teaching, improves the quality of talent cultivation, enhances the economic and social benefits of cooperative enterprises, and provides reference for vocational colleges to promote close cooperation between schools and enterprises, the deep integration of production and teaching, and the improvement of personnel training quality.

The "Decision of the State Council on Accelerating the Development of Modern Vocational Education" (State Council [2014] No.19) clarified the main position and role of enterprises in vocational education for the first time, and pointed out that enterprises can play a major role in running schools through two ways: enterprise self-sponsorship and enterprise participation. [1].

Overview of the Significance and Construction of the Construction of Modern Textile Professional Groups under the School-enterprise Double-subject School Running

According to the characteristics of the Yancheng regional textile industry cluster in which our school is located, how to play the role of local textile large enterprises in professional construction, play their respective roles, how to carry out specific school-enterprise dual-subject cooperation to improve the quality of professional group personnel training, have become a common concerning issue of vocational college Research and practice. Based on the subject research and the achievement practice, this paper puts forward the specific measures and characteristic innovation points of the modern textile professional group construction on the basis of the school-enterprise dual-subject school running system, providing reference for vocational college to boost the combined efforts and deep industry-education integration between college and enterprises, as well as promote the quality of talent training.

The Significance of the Construction of Modern Textile Professional Groups under the School-enterprise Double-subject School Running

The school-enterprise "dual-subject education" proposed in this paper is defined from the perspective of the implementation of the personnel training activities, and it is the organizational form of the vocational colleges and the running mode of the school-running mechanism [2]. Supported by the regional industrial cluster, Yueda Textile Industrial Park cooperated with the school enterprise to jointly build the “double-subject” Yueda Textile Institute, which is on account of modern textile professional group construction under the “double-subject” school running between college and enterprise, and solves the problem of "homogenization" of major setup among higher vocational
colleges, promotes the optimization and integration of educational resources; plays a role of leading and radiation effect of modern textile technology in the professional group, enhances the related specialty construction, solves the problem of low overall efficiency of professional construction; and is conducive to the formation of textile professional groups, to adapt to the needs of talents in industrial transformation and upgrading, flexibly adjusts the professional group expansion curriculum module to adapt to changes in market demand, promote the high matching of professional groups and regional industry development, form synergy among professional groups, give play to the advantages of clusters, enhance the ability of service industry development, and accelerate school-enterprise cooperation in depth, enhance graduates' job adaptability and career transfer ability, promote students’ all-round sustainable development; build a school-enterprise dual-subject talent training model, realize the fusion of industry-university education and teaching, resource co-construction and sharing, complementary each other’s advantages, talent co-cultivation, and symbiotic development.

Overview of the Construction of Modern Textile Professional Groups

The modern textile professional group of the institute was listed as a key professional construction project of higher vocational colleges by the Jiangsu Provincial Department of Education in July 2012. In the past four years of construction, it has always been paying attention to the development of professional group connotation and professional characteristics, and actively responded to the appeal of State Council’s file of the "Decision on Accelerate Development of Modern Vocational Education", depending on the Yancheng Textile Vocational Education Alliance led by our school, with the textile industry as the link, under the strong support of the Yancheng Municipal Government and the Textile Industry Association, our institute unites Jiangsu Yueda Textile Group to set up Yueda Textile Institute, explores and practices the school-enterprise double subject school-running model. Through close cooperation between schools and enterprises, and deep integration of production and education, we make full use of the high-quality resources of schools and enterprises to jointly build excellent "double-teacher" type teaching teams and scientific and technological innovation teams to jointly build and share inside and outside the school training base, completes together the whole process of talent cultivation, to realize the goal of cooperation win-win between the school and the enterprise, and form the school-running characteristics of “double-subject interaction, school-enterprise mutual benefit”. It has formed a sustainable development situation with modern textile technology as the leader and other specialties with different characteristics. For many years, it has been focusing on the construction of connotation and professional characteristics. It has formed distinctive special features in talent training, double teacher teaching, skill competition, innovation and entrepreneurship, base construction, production and study cooperation, social services and other aspects.

Research and Practice on the Talent Cultivation Mechanism of Modern Textile Professional Group Talents under the School-enterprise Double-subject School-running System

Relying on Yueda Textile Industrial Park, the School and Enterprise Dual Subjects Jointly Build Yueda Textile Institute

Following the "double-chain docking" between professional chain and industrial chain, we have innovated and practiced the "campus cooperation" mode of cooperation between the college and Yueda Textile Industrial Park, and jointly established Yueda Textile College, which has realized the all-round cooperation and cooperation between schools and enterprises. Schools, cooperative employment, and cooperative development, a group of high-quality technical and skilled talents have been trained.

Relying on the professional leadership, the Yancheng Textile Vocational Education Alliance was established, which played the role of the government agencies and their personnel within the alliance, as well as the respective advantages of the school and enterprise within the alliance, and
comprehensively cooperated, realized the complementarity and sharing of resources, and accelerated the reform and rapid development of the profession, furtherly pushed forward the transformation and upgrading of the textile industry in Yancheng.

In accordance with the principle of management integration, a professional construction steering committee was founded. The school and enterprise jointly managed and operated the Yueda Textile Institute. The company's technical leaders and professional leaders were responsible for the teaching operation. The company's human resources manager and the school were in charge of the student work plan to plan the talent specification. Clearly cultivate the scale and form a professional construction and talent training mechanism for industry-university docking. In accordance with the principle of integration of production and education, the teaching site was placed at the production site of the enterprise, and the production project of the enterprise was moved into the classroom of the college to carry out the integrated project teaching. The implementation of an organic whole education of industry-university-research, enterprise R&D projects have become curriculum innovation practice projects, and the school teaching projects have expanded into enterprise product innovation projects, mutual promotion, technological innovation, and fruitful results. According to the principle of school-enterprise culture integration, Yueda's “Heaven and Man, Infinite and Longitude” people-oriented culture and the school's “Five Realities” culture is combined to realize the corporate culture into the classroom and the school culture into the workshop.

Constructing and Carrying out the Talent Training Mode of "Post-guiding, Learning and Doing Unification", the Combination of Learning with Working

Abide by the "four-double" education model [3], with Yueda Textile College as the guarantee, work-study as the way, typical professional positions, the main line of the post work process, the school and enterprise jointly built the experimental training base inside and outside the school, learning to be one Throughout the teaching, according to the post ability requirements, reform curriculum, competition certificate, task book or study guide guidance, build and implement the combination of learning with working talent cultivation mode " of "post-guiding, learning and doing unification" [4].

This professional group conducts annual research on large and medium-sized textile enterprises in Yancheng, Suzhou, Wuxi, Changzhou, Shanghai and other service areas, and holds professional group construction steering committee meetings and practical expert seminars to clarify talent demand and adhere to the training of key positions in professional positions. Guided by the typical professional positions in the textile industry, the school-enterprise is integrated, the work and study are alternated, the double-teacher demonstrated teaching, and the teaching of the integration of the two education is implemented.

Reconstructing the "One Platform, Multi-direction" Project-based Menu Modern Textile Professional Group Curriculum System

According to the requirements of the training mode of textile technical skills and the guidance of the professional construction steering committee, the textile enterprise post and its capacity demand survey were carried out, and the design of the machine class, on-site production, equipment maintenance technology and technology group was determined, and the service marketing class was taken into account. Management and development positions, based on the principle of “underlying sharing, middle-level separation, and high-level mutual selection” [5], the school-enterprise cooperation reconstructs the “one platform, multi-directional” project-based menu based on the key capabilities of typical occupational groups. The professional group curriculum system sets three courses of professional general ability, professional core ability and career development ability. Based on the basic quality and skills, the core skill courses are set according to different employment groups, and the career development ability courses are mutually enhanced. Graduates' post-adapted and vocational migration capabilities promote students' comprehensive and sustainable development. Schools and enterprises develop professional standards such as “Textile Technician, Quality
Teacher” together and connect the corresponding learning fields. The professional standards such as “Needle Textile Inspection Worker”, “Textile Fabric Designer”, “Textile Foreign Trade Merchandiser” and “Textile Equipment Maintenance Worker” are blended in the professional curriculum system of the project-based menu, and the “double certificate integration” is put into effect.

Cooperate to Develop Quality Courses and Project Materials, and Build and Share Three-dimensional Teaching Resources

The school-enterprise curriculum development team develops curriculum standards, teaching content and construction plans by the competency requirements. Reconstruct professional platform classes to develop life skills and individual professional skills. Taking the "Textile Electrical and Electronics" course as an example, it follows the electrical requirements of Yueda Textile Equipment, sets up lighting circuit production projects, infuses electricity safety knowledge, and cultivates students' monomial technical ability; setting up simple tension meter production projects, integrating in sensor knowledge, and cultivating students’ professional monomial capacity. Re-engineering professional core courses to enable students to master the comprehensive professional ability of core positions. Taking the "Woven Fabric Design" course as an example, Yueda home textile fabric designers were hired to jointly develop and integrate the standards of textile fabric designers to form a project-oriented course content based on product analysis, design and trial production, and realized the "information integration”. Innovated professional development courses enables students to acquire innovative and entrepreneurial skills. Taking "Jacquard Fabric Design and CAD" as an example, with the resource advantage of Yueda Textile Research Institute, the course was constructed by selecting innovative projects according to the differences in students' professional characteristics.

Supported by the resource advantages of Yueda Textile Institute, with the project, task and case as the carrier, we insisted on learning to be one and perfected the professional teaching resource library. Collected information on industry resource pools, domestic and international standards for textile inspection, and information resources for textile industry. Adhere to the content of professional courses and professional standards, school and enterprise build digital professional teaching resources, to achieve the wide sharing of informational teaching resources.

Implement “Four Projects” to Create a “Three-master” Provincial Teaching and Technology Double Team

Putting the “Famous Culture Project” into Effect to Train Professional Leaders. Through the joint efforts of overseas exchanges, visiting scholars and school-enterprise joint projects, the implementation of the "famous training project" has improved the academic level of professional leaders and the ability of vocational education and teaching reform.

Boothing the “Teaching and Competence Expanding Project” and Fostering “Double-professionally-titled Teachers”. Through the transfer and secondment for getting experience in the company, visiting engineers and national and provincial training projects, “mainly attacking a professional direction, contacting an enterprise and public institution and holding a part-time post, hosting a project (studio), participating in or guiding a skill contest, developing a skill menu “the “six one” project is as the standard, the implementation of “teaching and competence expanding project”, with industry-college-institute cooperation, further enhance the level of provincial excellent teaching team, by means of engaging and flexible introduction, enterprise experts and the first line skilled craftsmen participate in the teaching research and teaching process, teamwork, and the same education, to form a quality and stable part-time teaching team.

Implementing the “Teacher’s Ethics Shape Project” and Cultivating the “Three teachers” Team. Taking the evaluation of “three educates pacesetter activities” as the starting point, the life tutors use the attitude of practical work, the spirit of hard work, the quality of humility and politeness to influence the students, the dedication, dedication, dedication, rigorous study has become a team.
The logo will be built into a "three teachers" team that integrates "life instructors, professional teachers and skilled engineers".

**Implement “Energetic Motivation Project” to Realize the Full Value-added of Teachers.** Through the pairing of famous teachers, teaching and research reform, improve the provincial excellent teaching team, and realize the teachers’ value-added. Via the school-enterprise masters and apprentice in pairs, carry out post training, the combination of production, study and research, bother the teacher's practical ability and scientific and technological ability have been improved, and a double excellent team integrating the provincial excellent teaching team and the provincial science and technology innovation team has been built.

**Aiming at the Requirements of "Training, Identification, Research, and Creation", Jointly Build and Share Experimental Training Platform inside and outside the School.** The school and enterprise dual-maintenance jointly build the textile testing center, the textile design center, the textile production center and the skill identification and training center's on-campus skills training platform, and build the internal and external experimental training integrating skill training, skill appraisal, project R&D and innovation and entrepreneurship base.

Cooperating with Yueda Textile to increase automatic production equipment, transform existing equipment, introduce enterprise production projects, and jointly construct “Yueda Textile Production Center”. Renovate the rapier loom production line and the spinning training factory, and build the “Yueda Textile School Middle School Training Base”. The company introduces Yueda Home Textiles into the Pioneer Park, the school and enterprise jointly invested in equipment and facilities, built a new jacquard design studio and a yarn-dyed design studio, and jointly built the “Yueda Home Textile Design Center” to build the Yueda Home Textile School, mainly for products. Development and proofing, student fabric analysis, product innovation and design capabilities, and enhance market awareness. Cooperated with Yueda Home Textiles Co., Ltd. to build Yueda Home Textiles Foreign Trade Documentary Training Room. The training room has many functions such as textile foreign trade order, textile business and trade, textile foreign trade correspondence, textile business English, etc. Professionals in the textile professional group, such as textile trade clerk and merchandiser. Give full play to the advantages of dual-subject resources and build a “skills training and appraisal center”. The development of textile enterprise grassroots management capabilities, textile new technology, research projects and other training, not only provide hardware support for the dual-certificate, but also for the core competitiveness of enterprises, training for enterprises, similar schools more than 9,000 people. Integrate existing resources, build a new textile and apparel exhibition hall around the special textile and clothing resources in Yancheng, and use it for professional education and professional course teaching to realize students' perception of textile and apparel products, and deepen their understanding of professional knowledge and professional love. At the same time, the various theme cultures are infiltrated in the exhibition hall, effectively display the professional culture to the students, which greatly stimulates the students' interest in learning and deepens the understanding of professional culture. To provide students with phased internship training programs and employment and entrepreneurship projects, and to build multi-functional off-campus training and employment bases with 36 companies represented by Yueda Textile Group.

**School-enterprise co-constructs An all-round Education System to Realize Student Value-added.** Implementing the integration of curriculum, vocational qualifications and competitions, and the establishment of the "Textile Materials Testing" with the Yancheng Fiber Inspection Institute. The Skills Competition Project has a textile fabric testing project, and the skills appraisal corresponds to the "Needle Textile Inspection Worker" certificate; Co-construct "Machine Design" with Yueda Home Textile Co., Ltd., the technical competition has a textile fabric design project, the skill appraisal corresponds to the "fabric designer" certificate; and the Yueda Textile Foreign Trade Department jointly establish "Textile Trade and Trade", Skills Competition There is a textile foreign trade documentary project, and the skill appraisal corresponds to the foreign trade merchandiser. The student's research rate is 100%, the senior worker's pass rate is 99.8%, and the professional ability is significantly increased. Through the system of everyone, the school-enterprise
The Implementation Effect of Modern Textile Professional Group Talent Training Mechanism Based on the "Double-subject" School Running

(1) The school and enterprise double-subjects all-round cooperation and education, forming a "job-leading, learning and combining" work-study combination talent training model, based on professional job analysis, reconstructing the "one platform, multi-directional" project-oriented menu of modern textile professional group courses The system has been widely recognized by the industry and enterprises. For Yancheng and the Yangtze River Delta region, a large number of technical skills talents such as process design, product testing, foreign trade and other orders are urgently needed. The acquisition rate of students in the modern textile professional group is 100%. The employment rate of graduates has been more than 99.5% for three consecutive years. It has been ranked among the top universities in the province, and the quality of employment has been comprehensively improved. Construction related achievements were reported in many media websites such as Jiangsu Education, China Higher Vocational Education Network, and China Textile Education Association. Through construction, the modern textile professional group has become a key construction specialty in Jiangsu Province. Among them, the textile specialty has become the key construction specialty of the provincial demonstration higher vocational colleges, the provincial specialty specialty, the provincial brand engineering construction specialty, and the textile trade professional to promote the professional services for the central financial support. The professional capacity project construction profession, the school-enterprise "dual-subject" deep cooperation talent training model has been promoted and demonstrated in the hospital. In the past three years, the teachers of this professional group have carried out 48 educational and teaching reform projects at various levels, 28 Chinese Academy of Textile Industry Teaching Achievement Awards and 4 Excellent Teaching Achievement Awards from Jiangsu Higher Education Institutions. In 2015, it won the “National Advanced Unit for Talent Construction in the Textile Industry”. In 2016, it won the “National Textile Industry Talent Construction Demonstration Institution”. In 2017, it won the honorary title of “National Textile Industry Skilled Personnel Cultivation Outstanding Contribution Award”.

(2) The implementation of the competition for the certification of courses, the student's professional ability is leading domestically. Through the "sports promotion, competition, and competition", the core competence of the profession, the integration of curriculum and professional qualifications, the match between the competition and the professional qualifications, the student's research rate is 100%, and the senior worker's pass rate is 99.8%. The professional ability has increased significantly. Through the professional group student competition, the school-enterprise partnership, the enterprise provides training positions, guidance, and other professional training support for students. The students have acquired 13 provincial and municipal innovation and entrepreneurship projects and 13 awards.
selection competition and the national team competition three-level skill competition guarantee, the national skills competition results in the same class in the country, which led to the improvement of the school's professional skills competition. The students of this professional group participated in the National Textile Vocational Skills Competition of the Higher Vocational College and won the first prize of six groups, and won 69 individual awards and 4 skill pawns. Nearly 20 brother college, such as Nantong University, Jiangsu College of Engineering and Technology, and Changzhou Vocational Institute of Textile and Garment, came to study and exchange.

(3) Give full play to the resource advantages of the school and enterprise dual subjects, the two sides jointly develop curriculum standards for the matching jobs, develop courses and write project-specific textbooks, continuously deepen education and teaching reform, and build a library of high-quality teaching and training resources. Developed 15 professional courses combining engineering and engineering, 10 engineering and teaching materials, including 5 provincial key textbooks, 5 classroom-level resources sharing courses, 12 online platform courses and teaching resources, and won national and provincial level curriculum design. There are 10 prizes for micro-curriculum competitions, 29 prizes for various teaching competitions at the school level, and 12 research projects on national textile and apparel informationization.

(4) Relying on the platform of Yueda Textile Institute established by the two-subsidiary school, it will promote school-enterprise cooperation, integration of production and education, and carry out project research, technical consultation, technical research and results promotion, and employee training through project-driven, talent-driven and platform-driven work. In terms of achieving remarkable results. The school and enterprise jointly declared 47 provincial and municipal science and technology projects, and a total of 56 scientific and technological projects under research, and won the first and second prizes of the Yancheng Science and Technology Progress Award. The accumulated economic benefits for the enterprise were more than 20 million yuan, and the technology revenue was 480 yuan. 10,000 yuan; online and offline for more than 100 local enterprises to carry out technical consultation and technical research, including 25 science and technology projects of the Provincial Science and Technology Department, 32 projects of China Textile Science and Technology, 64 new product development, teachers above the provincial level The journal published 437 papers, including 200 papers published in core journals, 12 invention patents, 59 utility model patents, and one patent gold medal awarded by the China National Textile and Apparel Council. The invention patent equipment developed by team teachers participated in Shanghai International Textile Machinery Exhibition, in 2015, was awarded the provincial outstanding scientific and technological innovation team. With the help of the provincial technology transfer center established by the school, 72 scientific and technological achievements of our school and domestic famous textile colleges were successfully transferred, and more than 9,000 social training and skill appraisal were carried out, making a huge contribution for improvement of the competitiveness of industrial enterprises, promotion of industrial upgrading and accelerating enterprise development.

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References


