



A Study on the Ways to Improve the Quality of Talent Cultivation in Higher Vocational Colleges-Take Sanya Aviation and Tourism College as an Example

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Abstract. It is crucial for higher vocational colleges to analyze precisely the problems to be solved under the background of strengthening the integration of industry and education, to explore effectively the ways and approaches to improve the quality of talent training and to cultivate the talents that are suitable and qualified for the society. In the further study of Opinions on Strengthening the Integration of Industry and Education and Measures for Promoting the University-Enterprise Cooperation to in Vocational schools, on the basis of the state policies and documents, combined with the operation mode of large enterprises running schools and school-enterprise integration, on the premise of practicing and summarizing a number of deep school-enterprise cooperation projects, our school reconstructs the way of talent cultivation in higher vocational colleges from six aspects: top-level design, resource optimization, team construction, curriculum reform, cultural integration and mode innovation.

Keywords: Talent cultivation · Ways and approaches · Integration of Industry and Education

1 Background of the Study

Since the launch of these documents such as Opinions on Strengthening the Integration of Industry and Education [1] and Measures for Promoting the University-Enterprise Cooperation to in Vocational schools [2], the state has promoted the integration of industry and education and school-enterprise cooperation into the basic system implementation of national education reform and human resource development, aiming to gradually solve the main contradiction between talent training and industrial development and advance the implementation of school-enterprise collaborative education. Therefore, it is significantly important for every vocational college to study and analyze the practical problems affecting the cooperation between industry and education, school and enterprise in depth, and search for ways and methods to accelerate the speed and improve the quality of education.

2 The Urgent Problems to Be Solved Under the Background of Strengthening the Integration of Industry and Education

2.1 The Dislocation Between Industry and Education

There is a common phenomenon that it is difficult for enterprises to recruit and graduates to hunt jobs. The reasons are as follows:

First, higher vocational education is divorced from economic development. Advanced economic development should be matched with higher vocational education in order to promote and improve each other. At present, policies and regulations of higher vocational education and economic development in China are disjointed from execution strength, specialty setting is disjointed from industrial structure, talent training is disjointed from post demand, and faculty is disjointed from technical skill demand, which leads to the inconsistency between the short talent supply and the strong talent demand [3].

Second, professional transformation lags behind economic transformation. China is standing in a critical crossroad of economic and social transformation, and the technical talents cultivated by schools will finally return to the workplace. However, the students jointly cultivated by the school's professional setting, teaching mode, teaching content, teaching staff and other factors cannot satisfy the need of the economic transformation, resulting in the current situation that the reform of the school's talent cultivation is not responsive to the economic transformation and is disconnected from the accelerated transformation [4].

Third, the student employment is divorced from the enterprise recruitment. Companies want to recruit students who have formal employee quality, ethics, culture, values and skills. While most of the students are lack of reasonable thinking and orientation and long-term career planning life, tending to pay attention to the immediate interests. It shows that high expectations and low qualifications affect employment and at the same time lead to the phenomenon of poor school enrollment and employment [5].

2.2 The Dislocation Between School and Enterprise

School-enterprise cooperation has not really touched the interests and needs of enterprises, and the present situation of cooperation is still "two parties, but only one is enthusiastic", that is, the enterprise and the school are two parties, the school is enthusiastic and the enterprise is indifferent. It is mainly reflected in the following three aspects:

First, there is a disconnect between school and corporate interests. In the process of school-enterprise cooperation, enterprises have to provide the school with front-line production equipment and human resources to guarantee the teaching activities of the school, which is bound to directly affect the production efficiency of the enterprise, which deviates from the philosophy of the enterprise that takes profit as the and maximization of interests as the goal.

Second, there is a disconnect between school and corporate culture. Campus culture and enterprise culture, student quality and professional quality, professional knowledge and post ability, student character and professional ethics are different in the training

environment, process and method. The school emphasizes the process of training, but the enterprise focuses on the results of training.

Third, there is a disconnect between school and corporate information. The training of technical talents of schools is not carried out simultaneously with the demand of enterprises. The school lacks sufficient understanding of the level, type, and structure of all kinds of talents required by the enterprise, resulting in that the students cultivated by the school cannot meet the requirements of the enterprise.

3 Exploring Ways to Improve the Quality of Talent Training Under the Background of Strengthening the Integration of Industry and Education

3.1 The School-Enterprise Cooperation to Improve the Top-Level Design

The enterprise-running school is a part of the enterprise and the skilled and technical talents needed by the enterprise come from the school. Therefore, the school and the enterprise build a relationship of complementing and promoting each other and growing together. HNA's executives have always attached great importance to the development of our school. Over the years, they have given great support to our school in terms of policy support, institutional innovation, investment in teaching funds, construction of training bases, training of faculty, as well as professional construction and curriculum development. In this way, both the school and the enterprise can fully share material resources, information resources and human resources, and realize maximum benefits on the basis of optimized allocation of resources [6, 7]. Based on the above, the school has promoted the group to set up a professional construction and development committee to carry out special cooperation. At the same time, the group specially formulated the Notice on the Selection of Excellent Personnel to Serve as Part-time Teachers in SATC (Sanya Aviation and Tourism College), which strengthened the complement of "double-qualified teachers" in the school. The Notice on Supporting student work of SATC is formulated to guarantee the students' internship and employment. The Notice on Accelerating and Supporting the Development of SATC has been formulated to ensure that the school is equipped with the latest technical data and training equipment used in enterprises. The implementation and perfection of the above system completely realize the sharing of all kinds of information based on technical standards, employment needs, site facilities and industry permits during the school training stage, and realize the seamless docking between personnel training standards and enterprise employment needs in the training results [8, 9].

3.2 Overall Planning and Coordination to Optimize and Share Both School and Enterprise Resources

At present, the focus of vocational colleges has shifted to the cultivation of students' abilities, so the position of vocational skills is more prominent. However, the school needs the support and guarantee of up-date equipment and technology for the cultivation of exquisite technical skills. But the enterprise strive to achieve immediate

employment without training links. In order to solve the above situation, the school and enterprise complement each other with resources superiority, has realized the school enterprise resources superiority complementary, that is, enterprises provide the latest production technology and equipment, schools provide personnel and venues. The significance lies in that, on the one hand, through direct contact with posts and on-site experience of key links and key elements in the production process, students are encouraged to apply theories to practice and deepen what they have learned, which shortens the internship and on-job cycle and saves the cost of practical training and internship for the school. On the other hand, the enterprise entrusts the college to cultivate all kinds of highly skilled talents by taking advantage of the college's sites and teaching staff, which is time-saving, labor-saving and practical [10]. Based on the above considerations, civil aviation call lines of HNA Sales Company was introduced into our campus, HNA Lufthansa Aircraft Maintenance Company was introduced to our school, 147 training equipment for special skills and crew simulation training equipment were purchased, two Xian Y-7 aircraft and five Donier 328 Jet aircraft were allocated from various aviation sectors by HNA Group and the 360° and 120° panoramic navigation simulators were purchased. All of the above facilities are used for students' training and practice. By constructing the real production situation and the highly simulated virtual learning situation, the docking of the real production environment was realized, which laid a solid foundation for cultivating high-quality students.

3.3 Mutual Training and Sharing, Strengthening the Construction of Double-Qualified Teachers Team

When it comes to the importance of the faculty, Chen Baosheng, Minister of Education, pointed out that teachers are the most fundamental and significant part of education. The characteristics and emphasis of faculty construction in higher vocational colleges are double-qualified teachers who can not only complete the enterprise's post teaching but also complete the classroom theoretical knowledge teaching. In the training process, the teachers should pay special attention to school-enterprise combination. Considering the advantages of our school, the construction and training of this team are mainly carried out from the following five aspects: first, education concept construction. The School-Enterprise Joint Construction Committee was established to analyze and discuss specific cases through organizing school-enterprise cooperation discussion days, so as to improve the theoretical level; second, capacity building for scientific research and innovation. Our school has issued various policies and documents, such as Award Method for Scientific Research Achievement in SATC, to encourage teachers to take the initiative to do scientific research. We have set up special teams for teaching, research, application, innovation and entrepreneurship, which are composed of teaching, scientific research, technical and professional backbones; third, practical capacity building. By means of joint construction and cooperation projects and teachers' temporary post training in enterprises, teachers participating in special construction are required to make a daily record of their learning and students' learning. Each of the teachers who take part in the temporary training shall be trained no less than one month per year, and provide the learning content and results in the enterprises; fourth, training

capacity building. The school has sent teachers to participate in the training of China Air Transport Sales Agent, IATA, Civil Aviation Dangerous Goods, Civil Aviation Safety Inspector and these teachers have obtained the corresponding qualifications. Teachers who have obtained training qualifications regularly go to enterprises around the country for staff training and teachers' and students' training at school.

3.4 Measures to Deepen the Reform of the Curriculum

In recent years, in order to improve the quality of talent training and effectively serve the needs of HNA Group and Hainan local economic development, our school pays special attention to the reform of course content and teaching method in the process of talent training. First, our school introduced industry standards and promoted curriculum reform. The school and the enterprise jointly completed the formulation of three national standards, namely The Civil Aviation Transportation Professional Standard of Field Work, The Aviation Services Professional Standard of Field Work and The Air Cabin Professional Practical Teaching Facilities Construction Standard. Our standards accurately match the direction and specifications of talent training and have been used for reference by other similar institutions. Second, the teaching method of situation teaching realizes the transformation of teaching scenes into actual workplaces. For example, the aviation electron-mechanical equipment maintenance major in the school adopts the work order system in the course of class to achieve seamless docking with the actual work process of the enterprise. Third, our school built an open resource base. The online quality courses jointly developed and put into use by the school and the enterprise include Air Crew and Diet Nutrition and Health. The Air Crew major has been selected into the national teaching resource base, and the Air Transport Geography is under construction. Fourth, the joint undertaking of vocational skill competitions not only strengthens inter-school communication, but also builds a platform for students to improve their technical skills. By organizing and participating in various skill competitions, students can not only develop the spirit of solidarity and cooperation, but also improve their skills. At present, our school has formed a stable platform for national, provincial, municipal and school skill competitions. Students majoring in aircraft mechanical and electrical equipment maintenance have won the second prize and the third prize for many times in the National Aircraft Engine Dis-assembly, Debugging and Maintenance Competition and have won the first prize in the Pan-Pearl River Delta Computer Works Competition. Through participating in the competition, craftsman spirit of perseverance and excellence is inculcated into students in daily teaching and training.

3.5 Cultural Integration and Construction of Adaptive Value System

3.5.1 Shaping Excellent Corporate Culture

Corporate culture is a combination of the value idea, the enterprise system, the work environment and the historical tradition in the long-term production process, the value idea, the enterprise system, the work environment and the combination of historical tradition. It is formed through long-term accumulation, it is a kind of spiritual civilization and material civilization that represents enterprise image and characteristics.

It is the ideological guidance of the enterprise operation, the speaker of the brand, and an important lever to promote the development of enterprises. Planning for the Construction of a Modern Vocational Education System (2014–2020) clearly proposes that vocational education should carry forward the excellent national culture and modern industrial civilization, and inherit and pass down the fine traditions of virtue first, pursuit of skills and emphasis on inheritance of national craft culture [11]. Therefore, excellent enterprise talents should not only master excellent professional technology and skills, but also highly identify with professional qualities such as attitude, responsibility and integrity. Our school implements the unique cultural system (based on integrity, innovation-oriented, sincere dedication, strong implementation, and brave moral responsibility) of HNA throughout the process of training. The culture of integrity, innovation, dedication, execution and responsibility is integrated into students' life daily life by means of inviting enterprise experts to give lectures, analyzing outstanding enterprise cases and organizing various team activities.

3.5.2 Building a Quality Campus Culture

Like the saying goes “Who keeps company with the wolf will learn to howl”, campus culture has a direct impact on what kind of talents are cultivated. Therefore, it should be highly valued. In the process of the construction of campus culture, we should not only have the standard academic atmosphere, but also have the healthy and upward cultural atmosphere. Campus culture should be integrated into the characteristics of the industry and the professional spirit. Our school construct campus culture mainly through activities of regularly carrying out the study day of teachers' ethics and morality, holding symposiums, giving lectures to by enterprise experts, setting up psychological guidance classes, and carrying out popular science day, science and technology festival, vocational skills y festival, campus space day and other activities science and by the establishment of various types of associations, model aircraft association, the implementation of the campus department uniform day and other ways. The purpose is to let the students accept the edification, cultivate professional ethics and professional character imperceptibly.

3.5.3 Observing Professional Ethics

Industry spirit is a group concept combining industry characteristics and professional consciousness, and also it is an important embodiment of enterprise culture. Schools focus on the spirit of “Love and excel at what you do” in the process of training. For example, students majoring in civil aviation transportation should have the civil aviation spirit of “loyalty and responsibility, rigorous and scientific professional spirit, solidarity and cooperation work style, professional ethics of dedication”; students majoring in aviation mechanical and electrical equipment maintenance are equipped with the spirit of “concentration, research, professionalism, rigorousness, exactness and earnestness” [12].

3.6 Mode Innovation, Carrying Out “In-Advance” Training

3.6.1 Developing Productive Cognitive Practice Programs

According to the Regulations on the Administration of Student Internship in Vocational Schools (No. 3 [2016] issued by the Ministry of Education and other four departments), the internship program for post cognition is developed combining professional knowledge with major national political activities. For example, the security check major of our school has been undertaking the security check task of BFA (Boao Forum for Asia) for 11 consecutive years since 2008. The students not only improve their security check skills, but also enhances their safety awareness and political consciousness through participation. At the same time, in order to transfer the practical training class to the first-line enterprises, our school cooperated with Phoenix Airport to carry out the explosion-proof productive internship project at the entrance of the airport for the security major. The integration of real roles and scenes enables teachers and students to have double identities in the process of completing the project, that is, teachers are teachers/employees and students are students/employees. This teaching activity not only enables students to quickly master professional knowledge and skills, but also rapidly improves students' comprehensive vocational ability.

3.6.2 Constructing Productive Training and Practice Base on Campus

Under the background of strengthening the integration of industry and education, the school introduced the customer service hotline of HNA Sales Company and built a productive internship and training base. On the basis of the school-enterprise jointly formulating talent training program, sharing teachers and management, the on-job training and on-job talent cultivation of students are realized. The specific process is classroom teaching, centralized training, alternative-duty internship, following-on-duty internship and in-post internship. Through this method, while completing the professional theoretical knowledge, students are trained in advance with the knowledge content of the post. Thus, the win-win situation of the school and the enterprise is realized.

3.6.3 Developing a Comprehensive Practical Training Project Integrating Production and Teaching

Based on the regional development characteristics and combining with the needs of Sanya hotel industry, intercontinental hotel elite class was established. Therefore, the classroom and research and development location are moved to the hotel for on-site teaching, practical training and research and development. In the process of training, teaching, production and research and development are integrated; teaching, management, operation and service are integrated; teaching, practical training, cognition, on-the-job training and in-post training are integrated. This kind of teaching method enables students to work independently in each hotel when they graduate from school, realizing the seamless docking between the teaching process and the production process.

3.6.4 Carrying Out Pilot Reforms of Apprenticeships

Under the guidance of the Opinions on the Pilot work of Modern Apprenticeship issued by the Ministry of Education in 2014, our aircraft electrical and mechanical equipment maintenance major hotel management major respectively work with HNA Lufthansa Technology Training Company and Intercontinental Hotel Group to carry out the pilot reform of apprenticeship, which was rated as the pilot major of apprenticeship by the Ministry of Education. At the same time, our school, together with the major airlines of HNA Group and China Southern Airlines, jointly implements the modern apprentice training for flight attendants. On the basis of the admission plan, training plan and order agreement jointly formulated by the university and the enterprise, we adopt the training mode of recruiting employees upon admission and being on duty upon entrance, so that students can take into account the dual identity of student/apprentice.

The reform of personnel training mode aimed at deepening the integration of industry and education and introducing enterprises into the school has been carried out gradually and has achieved certain results. The achievements of the reform have been reported for many times by mainstream media such as China Education Daily, People's Daily and China Civil Aviation Daily. According to the survey data, the average income of our graduates ranked first in Hainan province and 23rd among the top 100 vocational colleges in China. Under the premise of national policy documents, various regions and colleges and universities have also introduced supporting policies. It is believed that the reform of deepening the training mode of industry-education integration will be gradually advanced and deepened. At the same time, we also hope that our efforts and exploration in the reform of talent training mode can provide reference for other similar institutions.

References

1. Several Opinions on Strengthening the Integration of Industry and Education, document from the General Office of the State Council, no. 95 (2017)
2. Measures for Promoting School-Enterprise Cooperation in Vocational Schools, document from six departments including the Ministry of Education, no. 1 (2018)
3. Cao, Z.-J., Yang, K.-K., Wang, H.-J.: The problems and countermeasures of the system construction of industry and education in vocational education. *Educ. Teach. Res.* **32**(6), 12–19+124 (2018)
4. Luo, M.-Y.: Research on the Realization Mechanism of Industry-Education Integration in Higher Vocational Colleges. Zhejiang University of Technology (2017)
5. Hu, Y.-Y.: Analysis on the dilemma and countermeasures of industry-education integration in higher vocational colleges. *Think Tank* **20**, 132+135 (2019)
6. Lu, Z.-Z., Cui, Y.-T.: Current situation, problems and prospects of modern apprenticeship research in China. *Educ. Career* **20**, 45–51 (2018)
7. Wu, X.-R.: Research on the construction mechanism and path of vocational college based on integration of industry and education. *China Vocat. Tech. Educ.* **29**, 5–11 (2018)
8. Lian, Z.-Z., Ge, B., Zhang, H.-Y.: Research and practice of dual-element cultivation mode of industry-education integration in higher vocational college. *J. Changzhou Inst. Inf. Technol.* **18**(03), 11–14 (2019)

9. Cai, L.-W.: Construction of practice base for higher vocational colleges based on in-depth integration of industry and education. *Educ. Occup.* **22**, 110–112 (2018)
10. Kong, F.-C.: Discussion on ways and means of sharing school-enterprise cooperative education resources. *J. Yantai Vocat. Coll.* **2**, 1–3 (2007)
11. Zhai, L.-X., Chen, X.: Research and practice on the cultivation of students' professional quality in vocational colleges. *China Vocat. Tech. Educ.* **11**, 92–96 (2018)
12. Yang, H.-T.: Research on the cultivation path of civil aviation craftsman spirit under the background of integration of school and enterprise. *China High. Educ.* **15**, 73–75 (2018)