

The Strategy of Cultivating Talents for the Application of Electronic Technology Majors Against the Background of the One Million Enrollment Expansion in Higher Vocational Education

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ABSTRACT

The one million enrollment expansion in higher vocational education is a major decision made by the central government after studying and judging the overall situation of China. It is a new challenge and task facing higher vocational education. This article takes the application of electronic technology as an example, through analyzing the characteristics of the source of enrollment and learning demands, explores the reform strategy of high-quality enrollment expansion in terms of professional curriculum system, teaching organization mode, and curriculum evaluation mode.

Keywords: one million enrollment expansion in higher vocational education, applied electronic technology major, curriculum system, curriculum evaluation mode

I. INTRODUCTION

The 2019 "Government Work Report" clearly stated that "reform and improve the enrollment methods for higher vocational colleges, encourage more recent high school graduates, veterans, laid-off workers, migrant workers, etc., to apply for the exam, and expand the enrollment of 1 million people this year." The 2020 "Government Work Report" clearly stated that "every effort should be made to stabilize and expand employment. This year, there are 8.74 million college graduates, and colleges and universities and local governments must provide continuous employment services. This year and the next two years, more than 35 million people will be trained in vocational skills, and higher vocational colleges will expand the enrollment of 2 million people, so that more workers will develop skills and get jobs." In the face of expanding enrollment sources, how to achieve enrollment expansion and high-quality training is a new challenge and task facing higher vocational education. The guidance of the General Office of the Ministry of Education on the management of higher vocational education and teaching after enrollment expansion clearly states that it is necessary to "actively adapt to the new requirements

of diversified student sources and diversified development needs for education and teaching after the expansion of higher vocational education, ensure quality expansion, and comprehensively improve the quality of talent training" [1].

II. THE STRATEGIC SIGNIFICANCE OF ONE MILLION ENROLLMENT EXPANSION IN HIGHER VOCATIONAL EDUCATION

Pan Jiajun, deputy secretary-general of Shanghai Vocational Education Association, mentioned some thoughts on "Eight Thoughts on One Million Enrollment Expansion in Higher Vocational Education": "One million enrollment expansion in higher vocational education" is a major decision made by the central government after studying and judging the current overall situation of the country. It is a strategic move "to adapt to the increasingly urgent demand for technical and skilled talents from industrial upgrading and economic restructuring, and to develop higher vocational education to ease the current employment pressure and solve the shortage of highly skilled talents" [2].

Jiang Dayuan of the Vocational and Technical Education Research Institute of the Ministry of Education pointed out in the article "On the Big Changes and New Occupation of Vocational Education Brought by the Expansion of Higher Vocational Education": "This is a decision that regards

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employment as the most important investment in human capital and a means of counter-cyclical adjustment through social policies"[3].

Kuang Ying and Shi Weiping, Institute of Vocational Education and Adult Education, Faculty of Education, East China Normal University, mentioned in the article "On the Policy Intention, Connotation Essence and Realization Path of the One Million Enrollment Expansion in Higher Vocational Education": "Its essence is a change in the value orientation of vocational education. From the social orientation era that only focused on the needs of industries and enterprises and emphasized the employment rate, it gradually transitions to the era that not only pays attention to social and market satisfaction, but also pays attention to the full development of people and individual career development" [4].

The one million enrollment expansion in higher vocational education is to replace the stock of labor with high-quality human resources. Only by correctly understanding the strategic significance of China's implementation of the one million enrollment expansion in higher vocational education can the schools establish the correct orientation in the reform of higher vocational talent training, carry out the reform of the talent training model in accordance with the characteristics of the new social student source group, achieve appropriate education, and truly teach in accordance with their aptitude, ensuring high-quality enrollment expansion and training technical and skilled talents who serve the regional economic development

III. THE CHARACTERISTICS OF THE NEW SOURCE OF STUDENTS UNDER THE ONE MILLION ENROLLMENT EXPANSION IN HIGHER VOCATIONAL EDUCATION

After the one million enrollment expansion in higher vocational education, the student population has appeared diversified, including fresh high school graduates, secondary vocational graduates, veterans, laid-off workers, migrant workers, etc., among which veterans, laid-off workers, migrant workers, etc., will be the main source of one million enrollment expansion.

Compared with the traditional high school graduates, the expanded enrollment source has a lower entrance threshold and a larger age span of the source. It has certain advantages and disadvantages in terms of learning foundation, work experience, social experience, marital status, learning purpose, learning self-discipline, family economic pressure, etc.

Among them, the migrant workers have certain social experience and work experience, and have

certain practical experience in job skills. Most of them are married and are currently engaged in work. They have a general cultural foundation, a general grasp of theoretical knowledge, general job competitiveness, and a clearer learning purpose, mainly to improve academic level and enhance employment competitiveness. Because of taking care of family and work, the available time for this kind of students to devote to study is relatively insufficient.

Compared with migrant workers, laid-off workers have the same thing, that is, they have certain social experience and work experience, and have certain job skills and practical experience. Most of them are married, have average cultural foundation, and have average theoretical knowledge. However, in addition to taking care of their families, laid-off workers must also seek new career positions. The available time for studying is less stable, employment pressure is greater, and family financial pressure is greater. Therefore, the learning purpose of this kind of students is clearer, and the demand for improving the level of academic qualifications and enhancing the competitiveness of employment is stronger.

While peers are studying and learning knowledge and skills, soldiers are training hard to protect homes and defend country. Therefore, compared with migrant workers and laid-off workers, veterans also have insufficient work experience, do not have practical experience in job skills, have insufficient social experience, and have weak social integration capabilities. The problem of poor job matching may arise for the first employment of military personnel after retirement. In 2014, the "Notice of the Ministry of Education on Further Implementing Relevant Policies for Retired Soldiers to Study in Secondary Vocational Schools and Higher Education Institutions" clearly stated the policy of funding and subsidies for retired soldiers to attend higher education schools. Therefore, the pressure on tuition and living expenses for veterans during their studies is less than that of other student groups. The veterans also have a significant advantage over other student groups, that is, the life of the army has allowed veterans to form a strong sense of discipline, high mental awareness, good physical fitness, good mental quality, ability to endure hardship, strong self-discipline, and strong learning ability. Especially in recent years, most of the veterans have a high school education level, and most of them are unmarried. They have a good learning foundation and sufficient study time. Therefore, the learning purpose of this kind of students is very clear, to improve the level of academic qualifications, master a skill, and enhance employment competitiveness.

IV. EXPLORING THE TALENT CULTIVATION STRATEGY OF ENROLLMENT EXPANSION

The guidance of the General Office of the Ministry of Education on the management of higher vocational education after the expansion of enrollment clearly states that "adhere to the standard, diversified models, flexible school system, insist on teaching students in accordance with their aptitude and needs, insist on lenient entry and strict exit, and strictly control graduation"[5]. This article takes the source of expanded enrollment of applied electronic technology in Shanwei Polytechnic as the research object, and explores the strategy of high-quality expansion of enrollment talents.

A. Fully researching and actively carrying out academic analysis

In 2019, applied electronic technology major in Shanwei Polytechnic launched the Guangdong Province System Educational Enhancement Program to recruit students, enrolling a total of 28 students. Among them, there are 26 males and 2 females; the minimum age is 18 years old, the maximum age is 38 years old, 3 people are under 20 years old, 18 people are 20-29 years old, and 7 people are over 30 years old; there is 1 veteran, and the other 27 people are on-duty employees; 8 people have local household registration in Shanwei and 20 people have household registration in other regions.

By conducting career planning and university study plan surveys for the expanded enrollment source of this major, it can be seen that the employees in the expanded enrollment source are currently or have been working in electronic companies, have certain experience in the production line of electronic companies, and have a large span of service. There are new employees who have just started working in electronics companies, and there are also old employees who have been working in electronics companies for more than ten years. Regarding the choice of learning methods, the students in the expanded class believe that "full-time school learning" will conflict with working hours, and students all hope that the class time can be off-peak with working hours.

The selection of majors for enrollment expansion is mainly based on their own grasp of the employment situation and their own career student source planning, with clear learning goals, that is, the future employment direction is the electronics industry. Among them, most of the students under the age of 28 are unmarried. The main purpose of studying is to improve their academic qualifications and master a skill. The available learning time is relatively sufficient, and the choice of learning content focuses more on practical learning of skills. Students over the age of 29 have a longer working experience and richer practical experience in their

positions. A small number of students are already engaged in technical management work, most of them are married and have relatively little disposable learning time. The demand for job promotion drives them to improve their theoretical level, so their study is mainly to improve their academic qualifications and increase their job competitiveness, and the choice of learning content focuses more on the balance of theory and practice or more theory.

B. Breaking down barriers and opening up and reconstructing the professional curriculum system

Traditional professional courses generally focus on professional basic courses and professional core courses. Professional basic courses and professional core courses are required courses, and the proportion of class hours is relatively large; while the proportion of professional elective courses is small. However, most of the students in the expanded enrollment class already have a certain degree of experience in job practice, that is, they have mastered a certain professional learning foundation, have a strong purpose in choosing a major, have a clearer understanding of their future job development direction, and have a clear positioning of their learning demands. They have a very clear goal of choosing courses, that is, to serve their future job needs.

Therefore, when constructing a professional curriculum system of expanded enrollment sources, it should be open to reconstruct the professional curriculum system, break the barriers of traditional disciplines, and cultivate talents to meet the development needs of the industry chain. The professional curriculum system is not a purely "professional technology" curriculum system. According to the needs of the industrial chain post group, "post professional courses" will be opened, and the proportion of professional elective courses will be increased. "Non-professional technology" professional courses closely related to job development can be opened, such as business management, communication management, business etiquette, professional English, technical documentation, etc.

Some students have worked in enterprises for more than ten years and have rich technical and practical experience. The bottleneck encountered in job promotion may be the urgent need to improve professional theoretical knowledge and management knowledge. If the traditional professional curriculum system is set up and the professional basic courses and professional core courses are studied step by step, although the education level of students has been improved, the real benefits for students and companies are not much, and the benefits of corporate human resource optimization are not fully utilized. If students can choose courses to study according to their employment needs, then students' learning initiative

will be fully utilized, and at the same time, the goal of optimizing human resources can be achieved.

C. Teaching students according to demand and making teaching organization mode flexible

According to the characteristics and learning demands of students in the expanded class, teaching according to their needs and adopting flexible and diverse teaching organizations will help to better improve the quality of talent training.

By investigating the learning foundation and work experience of students in the expanded classes, it can be found that there are big differences in the knowledge and skills of students facing different professional courses.

Taking the professional core course "electronic product technology and quality management" as an example, some students of the expanded enrollment source have been engaged in related positions for several years; some have even been recognized by enterprise engineers or passed relevant skills certificates; some students have just been engaged in related positions and have a certain skill base; some students have studied this course at the secondary vocational level and have a certain knowledge base; some students have not studied this course at all, nor have they engaged in the practice of related positions, having zero foundation in this course. Not only are there large differences in the basis of course learning, but it is also difficult for students to unify their class time at their disposal due to work restrictions.

In response to these situations, the development of online teaching modes for some courses can not only break through the limitations of learning time and space, but also realize the diversification of teaching content. Subject teachers make full use of the country's existing online high-quality teaching resources according to their job abilities, and choose learning resources with rich forms and suitable difficulty for the courses, including not only the theoretical knowledge that must be sufficient for the course, but also providing curriculum development resources to allow students being free to choose. In this way, taking into account the students who have further needs in theoretical learning, the teacher will concentrate on online tutoring and answer questions after class, so that students can break through time and space to learn. At the same time, through the discussion link on the online platform, students can give full play to their original work experience advantages and promote each other.

Considering that students have to work and take care of their families, the time they can spend on school intensive study is indeed relatively small. In order to ensure the efficiency and quality of students' intensive learning in school, the development of professional core

courses adopts a hybrid online and offline teaching mode. Offline links are carried out on holidays and weekends, and core competency training is carried out in the on-campus training base. Through early learning of online resources, students can observe video teaching resources multiple times according to their own needs, and learn job operation specifications and operating steps; through online simulation exercises and tests, students can simulate the task completion process of the post, and be familiar with the job operation specifications and operation steps, and also allow the subject teacher to fully understand the learning situation of each student through the online test results of the students, and predict the possible existence of students' practice problems, and carry out personalized guidance during intensive training; finally, the subject teachers need to group according to the online learning situation of the students, carry out group-level personalized centralized training guidance, and strengthen the practice of the school training base to consolidate the job operation specifications and operating procedures.

D. Teaching students in accordance with their aptitude and exploring diversified curriculum evaluation modes

The one million enrollment expansion reflects the concept of lifelong learning in a career. Therefore, the evaluation mode for students' curriculum learning cannot be limited to the traditional teacher single-subject evaluation, let alone the closed-book final exam of the traditional subject mode.

Education Minister Chen Baosheng's guidance on the management of higher vocational education after the enrollment expansion clearly states that it is important to "explore the identification, accumulation and conversion of learning achievements, encourage higher vocational colleges to carry out the pilot 1+X certificate system, exchange credits according to regulations, exempt corresponding courses or modules, guide higher vocational colleges to actively participate in the pilot program of the National Credit Bank for Vocational Education, and facilitate the identification, accumulation and conversion of learning achievements of various student sources" [8].

Therefore, if a student has obtained the corresponding qualification certificate of the course during the employment period, he may be exempted from taking the corresponding course and obtain course credits. For students who have been proficient in the relevant knowledge and skills of the course during the employment period, the students can propose to take the course level test. If the students pass the course level test, they can be exempted from taking the corresponding courses and get course credits. For students who participate in relevant skills competitions or entrepreneurial competitions to win awards during

employment or reading, the course teaching content or class hours can be adjusted according to the competition level and award level. Those with excellent grades can be exempted from the corresponding courses and receive course credits. For online courses and intensive learning courses, it is recommended to adopt a three-subject evaluation model of teachers, students and corporate mentors, and adopt a process assessment model. By reforming the course evaluation and integrating the content of course ideological and political evaluation, guiding students to learn courses is not to accumulate course credits. The more important thing is to improve students' employment skills and improve the quality of workers, especially for practical courses, focusing on the evaluation of the practical links of the corporate tutors. Only in this way can the schools use evaluation to promote learning, enable students to master the actual operating specifications and skills of the real position, meet the real learning demands of students, and realize the seamless connection of talent training with actual job needs.

V. CONCLUSION

The one million enrollment expansion is both an opportunity and a challenge for higher vocational education. It is a higher level of expectation for higher vocational education to serve the China's development. The one million enrollment expansion in higher vocational education will lead higher vocational colleges to implement the "National Vocational Education Reform Trial Plan", further deepen reforms, serve regional industries, optimize the talent structure, and cultivate high-quality compound technical and technical talents for regional industrial transformation and upgrading.

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