

Research on the Development of International Teaching Standard of Navigation Majors in Higher Vocational College

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Abstract. Tianjin has successfully completed the development task of 50 international majors teaching standards. Referring to the developed international major teaching standards, this paper explains the significance of developing international teaching standards for navigation majors in higher vocational college, analyses the development path in training objectives and specifications, curriculum system and standards, standard of teaching conditons and teaching team etc, puts forward problems existing in the implementation of the international major teaching standards, and puts out corresponding countermeasures and suggestions.

Keywords: Vocational education; Navigation major; International teaching standard; Development path.

1. Introduction

According to the requirements of the notice of the Ministry of Education on the pilot development of teaching standards for vocational education based on foreign advanced experience (JZCSH [2012] No. 86), the Tianjin Municipal Education Commission, with Tianjin higher vocational education as the main body, in 2012 and 2013, successively selected 50 key majors to carry out the development of international teaching standards which related to advanced manufacturing industry, strategic emerging industry and modern service industry. After 3 years of development and practice, Tianjin has successfully completed the development task of 50 international major teaching standards, and the pilot work of international major teaching standards is steadily advancing [1].

Some experts believe that internationalization refers to the international standard, which has two meanings:

(1)The internationalization of service industry, that is, the construction of specialties should be oriented to the production enterprises with the world's advanced level;

(2) The internationalization of education level, that is to study and learn from the advanced vocational education models of developed countries, analyze the internal relationship and operation mechanism between its education structure and industry, make foreign things serve China, to build a vocational education system in line with the needs of China's economic development [2].

2. The Significance of Developing International Teaching Standards for Navigation Majors

The professional teaching standard of higher vocational education is one of the national education quality standards, and it is also the standard for the basic teaching construction and construction of specialties of higher vocational colleges. It clearly reflects the basic requirements of what and how to train students. [3] Based on the local industrial background, combined with its own professional layout and characteristics, Tianjin higher vocational colleges should set the goal of talent cultivation. Through learning the experience of Germany, the United Kingdom, the Netherlands, the United States and other countries, they develop and practice the international teaching standards of navigation major, inject the international concept and information into the

course, and cultivate the students with international vision, multi-cultural knowledge and the ability of communication and cooperation with people from different countries.

Tianjin is the confluence of the three national strategies of China's "one belt and one road", the coordinated development of Beijing, Tianjin and Hebei, and the construction of Tianjin free trade zone, and it is self-evident that it is of great importance to China's economic construction. As the largest comprehensive port in northern China, Tianjin port is the core strategic resource of Tianjin [4]. The main task of navigation majors is to train excellent shipping talents, and its construction and development play a very important role in the development of Tianjin port. On the basis of extensive research on international shipping enterprises, guided by international and domestic policies, regulations and industry standards, aiming at the post demand of international shipping enterprises, and referring to the teaching standards of similar majors in similar colleges and universities, the international teaching standards of navigation majors in line with China's higher vocational education can be built. The international teaching standards of navigation majors can strengthen the basic conditions, supporting the construction of core courses and the curriculum system, and optimize the structure of teachers, students' ability and quality, teaching process management, and greatly improve the application of professional English, professional knowledge, professional skills. Further more, it will improve the quality of personnel training, cultivate international talents with technical and skills that meet the needs of international shipping enterprises, and constantly improve the social influence and service capacity of higher vocational education.

3. An Analysis of the Development Path of International Teaching Standards

Drawing lessons from the professional teaching standard and professional skill certificate examination standard of the advanced international similar colleges and universities, the implementation path and teaching support system are designed systematically, and the international teaching standard development practice of navigation major is carried out.

3.1 Investigation of International Shipping Enterprises

Looking at the development of the world, it is not difficult to find that the United States, Britain, Germany, Japan and other industrialized countries have a more comprehensive vocational education system, and there is close cooperation between vocational colleges and related enterprises in these countries. Therefore, through the investigation of the international shipping enterprises in these countries, it is helpful for the vocational colleges in our country to learn and draw lessons from the advanced vocational education concepts and methods of foreign countries. At the same time, it can deeply understand the employment demand and post competency requirements of the international shipping enterprises, so as to carry out the development and practice of the international teaching standards of navigation majors.

3.2 Determining the Training Objectives and Specifications of International Shipping Talents

The main purpose of building international navigation majors is to cultivate talents who meet the employment needs of international shipping enterprises. Therefore, the primary task of developing international teaching standards of navigation majors is to determine the training objectives and specifications of international shipping talents. For international shipping talents, there are usually the following requirements: to meet the post needs of international shipping enterprises; to meet the requirements of related associations for employees; to be able to communicate in English fluently.

In view of the above three points, under the premise of meeting the competency standards stipulated by international and domestic laws and regulations, combined with the post functions and competency standards of international shipping enterprises, with the goal of obtaining internationally recognized vocational qualification certificates, determine the talent training objectives of international majors. And the training standards of international shipping talents

should be determined from three aspects of knowledge requirements, skills requirements and quality requirements.

3.3 Establishing Curriculum System and Standards to Meet the Needs of International Shipping Talents Training

International majors train technical and skilled talents that meet the requirements of international and domestic laws and regulations, which should have international, scientific and practical characteristics. When developing the curriculum system of international majors, we should pay more attention to the cultivation of vocational capacity. Students can not only obtain the corresponding academic qualifications, but also obtain the international vocational qualification certificate when they graduate, so that the academic education and vocational education can be fully integrated, that is, "the integration of curriculum and certificate", achieve the coordinated development of comprehensive quality and vocational capacity, and fully reflect the teaching idea of "ability standard".

According to the established training objectives and specifications of international shipping talents, combined with the characteristics of the related associations, an international major curriculum system of "integration of course and certificate" is constructed to meet the post demand of international shipping enterprises, which is supported by core vocational capacity. And the international standard of core courses of navigation majors is developed by maritime vocational colleges and international shipping enterprises, besides, international courses system and teaching content will be established, which should focus on introducing and learning the latest scientific knowledge and technological achievements of foreign countries. At last, the existing curriculum content should be reorganized and localized.

3.4 Standard of Teaching Conditions

In formulating the standards of teaching facilities, we should pay attention to cooperation with multinational companies and well-known enterprises at home and abroad, take fully meeting the teaching requirements of "integration of theory and practice" as the standard of building training facilities, and build a multi-functional, high-quality technical and skilled personnel training base which integrates teaching, training, professional skill identification and technology research and development.

3.5 Standard of Teaching Team

According to the needs of teaching, the establishment of teaching team standards should be based on the classification of full-time teachers, part-time teachers and international exchange teachers. The standard of full-time teachers can be considered from four aspects: moral cultivation, professional background, vocational experience and teaching ability. Part-time teachers can make appointment conditions for professional education, professional experience and teaching ability; international exchange teachers can mainly make appointment qualifications from professional education background, enterprise experience and bilingual teaching ability.

4. Challenges and Countermeasures in Implementing International Standards

4.1 Challenges in the Implementation Process

At present, some developed international majors have set up international pilot classes. Bilingual teaching is carried out in the classes. The syllabus of teaching materials is also the original English textbooks or the Chinese English comparison textbooks, which are taught in full accordance with the established international teaching standards. However, the implementation of international teaching standards for navigation majors is a challenge for both students and teachers. This is also a problem for the reform and development of vocational education in the future.

For students, the biggest challenge lies in their basic problems. The development of international teaching standards for navigation majors aims to cultivate technical and skilled talents in line with the needs of international shipping enterprises. However, the learning basis of students in navigation vocational education is generally weak, lacking systematic theoretical learning ability, especially in English learning, which is far from the real internationalization.

For teachers, there are almost no problems in English reading and translation, but it is difficult to teach in English. Especially for young teachers, due to the lack of enterprise experience, the understanding of knowledge and skills is more theoretical, lack of understanding of technology and grasp of skilled talents.

4.2 Corresponding Countermeasures and Suggestions

The development team should take the standards of teaching team, teaching facilities and evaluation standards as the focus of the development of international teaching standards for navigation majors.

First of all, international teaching conditions should be established, and internal and external training bases should be built suitable for internationalization. Teachers should compile teaching materials that meet the needs of international shipping personnel training, and integrate theory, practical training and practice through the "integration of teaching and practice".

Secondly, international teaching team should be established, maritime vocational colleges should actively introduce professional teachers with overseas learning background, employ well-known technical and management backbones of multinational enterprises in the shipping industry as part-time teachers, and regularly send teachers abroad regularly for training, study or practice, gradually making the composition of teaching team show international characteristics.

Last but not least, a diversified evaluation standard with the educational unit and the employing unit as the evaluation subject should be established, and attention should be paid to the evaluation of students' learning process, such as team cooperation consciousness, the degree of participation in teaching activities, the habit of independent thinking, the ability to solve professional problems, etc.

5. Summary

Generally, the development of international teaching standards for navigation majors is an opportunity, which has led vocational colleges to embark on a path of development of vocational education with Chinese characteristics based on advanced foreign experience. Because there are many difficulties, the development of international teaching standards for navigation majors is also a challenge, and the internationalization of vocational education of China is still a long way to go which lead a large number of vocational education practitioners have the courage to make breakthroughs and innovations, and finally make vocational education of China truly in line with the international standards.

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(2)China Transportation Education Research Association 2018-2020 education science research project "Research on selection and management of part-time teachers in maritime vocational colleges" (Project No.: Transportation Education Research 1802-156).

References

- [1]. Tang Ni, Building international major teaching standards to achieve international integration of vocational education, special issue of skills competition, China Vocational and Technical Education, 2015, No. 22, p160-163.
- [2]. Yu Shuping, Sun Hao, Kang Yanfang, Preliminary study on the establishment of international major teaching standards, Vocational Education Communication, 2016, No. 15, p23-24.
- [3]. Lu Jingquan, Tang Xiaohua, Zhou Zhigang, Academic considerations on the construction of international higher vocational education professional teaching standards, China Higher Education Research, 2014, No. 09, p102-105.
- [4]. Liu Xingpeng, Research on the construction and development strategy of Tianjin Port "smart port" based on SWOT analysis, China Maritime, p31-33.