

Cultivation of Innovative and Entrepreneurial Literacy of Maritime Talents

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Abstract. With the promotion of a new round of global industrial revolution and the implementation of the strategy of making a strong country by sea and the "the belt and road initiative" initiative, the cultivation of innovative and entrepreneurial talents in navigation plays an important role in China's shipping industry. Aiming at the problems such as lack of innovation consciousness, disconnection between theory and practice, and inability to adapt to ship intelligence, this paper puts forward some ways to improve students' comprehensive quality and practical ability through characteristic discipline competition, school-enterprise cooperation and academy education, so as to make them more in line with the needs of high-quality compound talents in modern shipping industry and contribute to the national shipping industry.

Keywords: innovation and entrepreneurship; educational pattern; quality training;

1 Introduction

The four common elements of talent evaluation are shown in Figure 1, including "virtue", "diligence", "ability" and "skill". "Virtue" means ideological character and professional ethics, "diligence" means attitude and motivation, "ability" means creative ability and management ability, and "skill" means professional skills and compound skills. "that is, professional skills, compound skills.

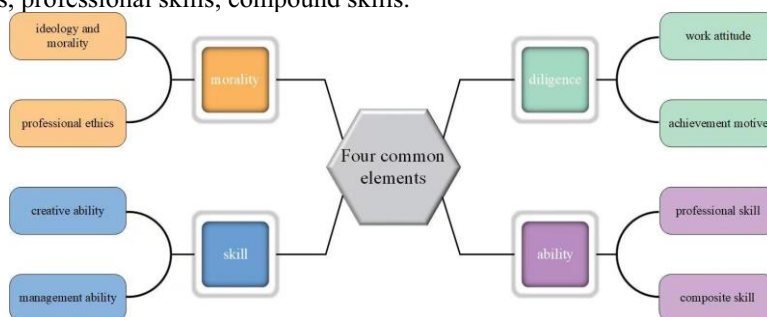


Fig. 1. Four common elements of talent evaluation

While the evaluation level of innovation and entrepreneurship seafaring talents is shown in Figure 2, the innovation process is from learning to practice to technical problems and finally realize innovation, and the entrepreneurship process is from learning to practice to management problems and finally realize entrepreneurship, and the level of its talents is also from execution to profession to management and finally to creation.

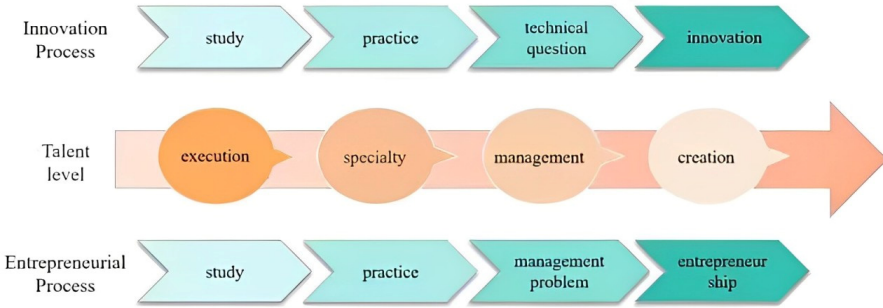


Fig. 2. Evaluation level of innovative and entrepreneurial maritime talents

Due to the different objectives and methods of cultivating talents in maritime colleges and universities around the world, there are also great differences in the cultivation mode. Looking at the development history of maritime education in the modern world for more than one hundred years, its education and training mode can be basically divided into three categories: consistency training mode, segmented training mode and comprehensive training mode[1]. At present, the maritime majors in colleges and universities in China generally adopt the characteristic semi-militarized management, taking military management as the reference, adapting to the requirements of personnel training in maritime colleges and universities, combining with the system and combination of maritime personnel training, and strictly and orderly managing students' daily study, life and behavior norms[2].

General Secretary Xi Jinping emphasized that "a strong economic country must be a strong maritime country and a strong shipping country". Under the impetus of the new wave of industrial revolution, the strategy of ocean power, the strategy of manufacturing power and the guidance of the "One Belt, One Road" initiative, nautical majors undertake the important mission of cultivating and conveying more composite, professional and comprehensive shipping talents for China's shipping industry, and play a fundamental, overall and leading key role in the sustained development of China's shipping industry. In the sustainable development of the national shipping industry, it plays a fundamental, overall and leading role[3].

2 Current Problems

2.1 Lack of Innovation and Entrepreneurship Awareness

As a kind of traditional engineering specialty, the training program of nautical specialty has certain fixity and uniformity. With the development of ship intelligence, the traditional teaching system is facing a great challenge, and it is especially important to cultivate the innovative consciousness of the nautical students. Due to the special characteristics of nautical majors, many professional courses in the curriculum design are independent of other engineering curriculum system, and the establishment of innovation and entrepreneurship training system characteristic of nautical majors is relatively imperfect. In the current assessment system, innovation and entrepreneurship has become a utilitarian means for some students, who pay more attention to the extra points in the comprehensive assessment and retention degree, and neglect the cultivation of real innovative thinking.

2.2 Disconnection Between Practical Skills and Theoretical Knowledge

In the current situation, we find that China's nautical specialties are widely used in the "consistent" nautical personnel teaching mode, although excellent in the teaching of theoretical knowledge, but often ignored the importance of the practical aspects, resulting in the practical ability of the students cannot be well exercised. Many graduates of nautical specialties are solid in professional knowledge, but insufficient in practical experience, lacking the necessary practical experience, and practical skills are out of touch with theoretical knowledge.

2.3 Unable to Adapt to the Development of Intelligent Ships

Accompanied by the continuous progress and development of intelligent ships, the requirements of modern intelligent shipping system on the professional skills of shipping professionals are no longer limited to the mastery of navigational knowledge and skills, but also include the learning and application of the latest intelligent control, artificial intelligence algorithms, cloud computing theories, and big data technology etc., especially the comprehensive ability of transforming the data into information, decision-making, and supervision[4]. The traditional training mode of nautical profession cannot adapt to the requirements of ship intelligence on the professional skills and comprehensive ability of nautical talents.

3 Suggested Measures

3.1 Improve the Innovative and Entrepreneurial Ability of Nautical Talents Based on Specialty Discipline Competition

As an important link combining theoretical knowledge and practical skills, disciplinary competition is an effective carrier for cultivating students' innovative spirit and practical ability, an effective tool for evaluating the teaching effect and enhancing the teaching quality, and plays an extremely important role in cultivating students' innovative thinking, enhancing their innovative and practical ability, and strengthening their teamwork spirit[5].

Nautical colleges and universities should actively rely on college students' innovation bases, take scientific and technological innovation projects and scientific and technological innovation competitions as carriers, strengthen the construction of project teaming, strengthen the leadership of teachers, improve the teaching system and reward mechanism of disciplinary competitions, and cultivate college students' sense of innovation and teamwork ability. Encourage, support and guide students to actively participate in the National Marine Vessel Design and Production Competition and other special events, and actively participate in college students' innovation and entrepreneurship projects based on nautical background and professional knowledge. Construct a practical innovation ability cultivation mode based on disciplinary competitions, cultivate students' team spirit and cooperation consciousness, so as to achieve the target requirement of cultivating innovative talents.

3.2 Cultivate Practical Innovative and Entrepreneurial Nautical Talents by Implementing the Excellence Plan

Nautical specialties should rely on the "Excellence in Engineer Education and Training Program" school-enterprise cooperation, strengthen the practice of teaching links, and cultivate nautical excellence talents who are adapted to the needs of the industry, with solid basic professional knowledge, and strong hands-on practical ability and innovation ability[6]. Excellence program talent cultivation mode ideas as shown in Figure 3, schools, enterprises two-way force, selecting outstanding teachers from universities into the enterprise, attracting enterprise experts into the campus, the establishment of excellent talent dual-teacher team, guide students to apply the basic theory and basic knowledge of maritime class to practice, cultivate nautical excellence, and comprehensively enhance the quality of innovation and entrepreneurship of nautical talents.

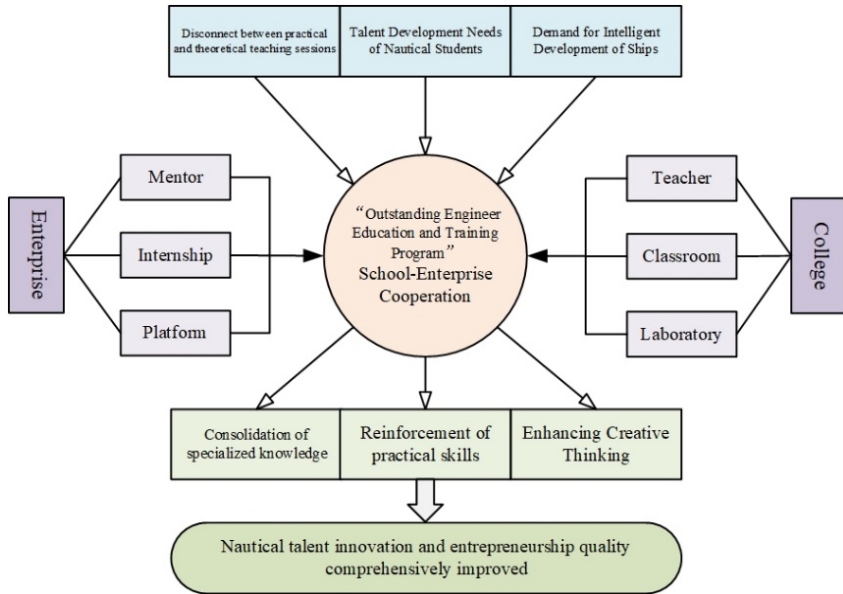


Fig. 3. Talent cultivation mode of Excellence Program

3.3 Cultivate Comprehensive Innovative and Entrepreneurial Nautical Talents by Integrating the Education Model of the Academy System

The Shuyuan system of maritime education breaks the convenience of colleges and specialties, combines the second and third classrooms, and constitutes a multidisciplinary integrated knowledge system[7]. Through the educational concept of "learning by applying", we set up internships and practical training, science and innovation exchanges to enhance the practical ability of students; set up a mentor system to provide personalized learning opportunities for shipping students, and stimulate their motivation to learn and innovative spirit[8]; through a rich variety of extracurricular activities and lectures on humanities and social sciences, we can enhance the humanistic qualities and sense of social responsibility of students, and adapt to the rapidly changing shipping industry; encourage international and third classrooms to build a multidisciplinary integrated knowledge system. Through a variety of extracurricular activities and lectures in humanities and social sciences, students can enhance their humanistic qualities and sense of social responsibility, and adapt to the fast-changing shipping industry. It promotes shipping students to become industry elites with international vision, strong professional ability and high comprehensive quality, which is more in line with the demand for high-quality innovative and entrepreneurial talents in the modern shipping industry.

4 Summarize

Although the nautical majors in China's universities have made remarkable achievements in the teaching of theoretical knowledge, there are deficiencies in the stimulation of innovative consciousness, the cultivation of practical skills and the adaptation of intelligent ship technology. In order to solve these problems[9], this paper puts forward the cultivation of innovative and entrepreneurial literacy of nautical talents through the characteristic discipline competition, school-enterprise cooperation and the education mode of Shuyuan system to cultivate practical, capable and comprehensive innovative and entrepreneurial nautical professionals with innovation ability, practical skills and international vision, so as to satisfy the long-term demand for the development of the national shipping industry. Following is Figure 4.

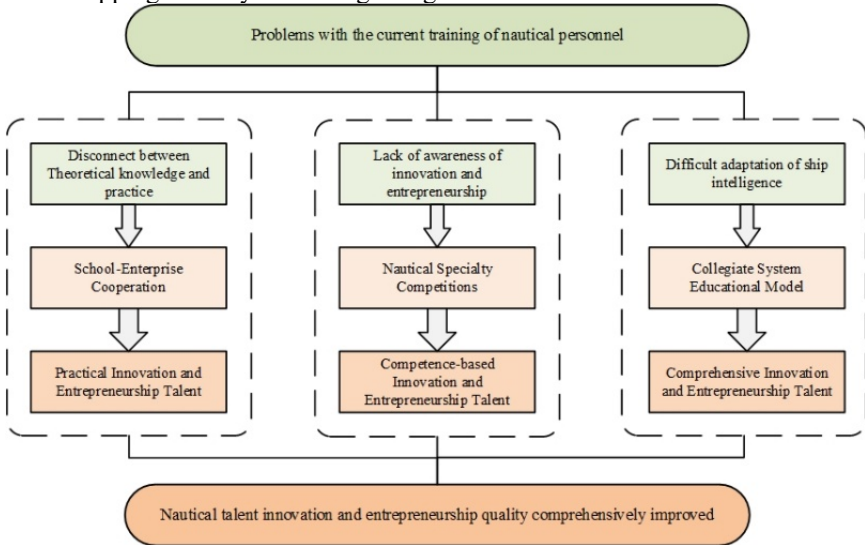


Fig. 4. Cultivation of Innovative and Entrepreneurial Literacy of Maritime Talents

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