Discussion on practical teaching mode of navigation based on information resource management

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Abstract: China is a large shipping country, and the effect of training navigation professionals is not ideal. The working ability of the new generation of crew is obviously weak, and the lack of practical ability affects their actual work. As the relevant colleges and universities that train maritime talents, they should enhance the effect of talent training by strengthening the effect of maritime practice teaching, and the use of information resource management technology is an important application.

1. Introduction

China is a large shipping country and a large seaman country. Although there are many seamen in China, the overall business level, English communication, analysis and problem-solving ability of seamen are not high, so the overall competitiveness of Chinese seamen is not high. There are two main ways to cultivate excellent maritime talents: one is theoretical and practical education during school education, and the other is training and professional ability cultivation during ship work. These two approaches complement each other and are indispensable. As the main place for the training of maritime talents, the education of students in maritime colleges and universities is the cornerstone of the training of maritime talents, which is particularly important in the whole training mode of maritime talents. Navigation practice teaching plays an important role in cultivating navigation technical talents. In order to cultivate navigation applied talents needed by social development, it is urgent to innovate the navigation practice teaching mode [1]。

2. Present situation and problems of current training mode of Maritime Education in China

2.1 Current situation of China's current maritime education and training mode

The current maritime education in China is divided into three levels: technical secondary school education Higher Vocational Education (junior college) and undergraduate education. According to the requirements of China's current laws and regulations, the degree of navigation education in technical secondary school is equivalent to the post competency training in coastal navigation areas, and higher vocational education (junior college) and undergraduate education are equivalent to on-the-job competency training in the unlimited navigation area. However, in terms of the current performance of seafarers at work, the seafarers trained at each level still have a lot of distance from the requirements of practical work. This highlights that the international seafarers trained by China's training system have poor practical ability and analyze and solve problems in the competition The current situation of poor strain capacity.

Table 1 navigation education is divided into three levels

Maritime Education	Educational level
	Technical secondary education
	Higher Vocational Education (junior college)
	Undergraduate education

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2.2 Problems existing in China's current maritime education and training mode

The teaching process of most maritime education and training institutions in China is still the traditional passive teaching mode, which appears on the podium in the form of teacher-centered. Teachers complete the teaching tasks in the whole syllabus according to their own reasoning logic, and students passively receive the contents taught by teachers. Due to the differences of students' acceptance ability and understanding ability, Teachers' thinking mode in teaching courses is often only suitable for some individuals. Due to the old knowledge content, students have narrow knowledge, poor practical ability, poor ability to solve practical problems, low participation in the course, and lack of enthusiasm and initiative in learning. At the same time, in the process of navigation practice teaching, the teaching content and teaching form blindly pursue to meet the minimum requirements of the Convention and domestic laws and regulations, and take the students' passing the competency examination organized by the competent maritime authority as the ultimate goal of teaching, resulting in students' rote memorization of the question bank in theoretical learning during their school study, I don't know why in practical learning. In the case of mechanical memory operation steps, although I finally passed the qualification examination, I didn't get the improvement of practical ability.

3. Significance of navigation practice teaching based on Information Resources

Information resource-based teaching method is to make full use of the rich information resources provided by modern computer network technology and multimedia technology, and adopt the interactive teaching mode of students' initiative, teachers' guidance, wide range of knowledge and multi perspectives. In the teaching mode of information resources, it can make full use of the modern network information resource database, expand the current teaching content from simple teaching materials to all network information resources related to the course, and convert the course from teaching according to textbook chapters to discussing according to different topics. The teacher's task is to arrange the content of each topic discussion or set different scenes according to the syllabus. The student's task is to actively use the resources of network database, teaching materials and school library to conduct in-depth research and Discussion on the topic according to the content put forward by the teacher. Information-based teaching technology has explored a set of mature teaching models in long-term teaching practice. The information-based teaching model is based on the theory of constructivism. Its learning environment includes four elements: situation, cooperation, conversation and meaning construction. In the information-based teaching mode, teachers are the helpers and promoters of students' active access to information, students are the main body of information processing and the active constructor of knowledge meaning, the knowledge carried by information is the object of students' active meaning construction, and the teaching process is through scenario creation, problem exploration, negotiation and learning Meaning construction and other student-centered process media are cognitive tools for students' active learning, collaborative exploration, meaning construction and solving practical problems. The simulator integrates the professional technology of navigation and computer application technology. From the perspective of informatization, the simulator is also a result of multimedia technology. Navigation teaching has rich information sources and a large amount of knowledge. The simulator teaching adopts information-based teaching technology and mode, which is conducive to the creation of environment, the improvement of students' initiative and enthusiasm, individualized teaching, mutual assistance and interaction, the cultivation of cooperative learning, and the teaching according to their materials, It is conducive to the development of innovative spirit and information ability[2].

Teachers have changed from the lecturer of the traditional classroom to the organizer and guide, and changed the traditional teaching mode with high labor intensity and low efficiency based on Teachers' teaching and classroom indoctrination. Using the information resource teaching method, students and students will become a mutual aid group. They need mutual cooperation and cooperation to complete the scenario model set up by the organizer and guide. Through such a

collaborative learning environment, the thinking and wisdom of the learner group can be shared by the whole group. Therefore, in the navigation practice teaching link, The introduction of information resources teaching is of positive significance to promote the teaching effect of navigation practice teaching.

Figure 1 Navigation simulator teaching

4. Information resources and development approaches in navigation practice teaching

4.1 Enhance students' interest in learning with information resources

The traditional navigation practice course is highly technical and often appears relatively boring in the teaching process. Many students have the problem of low interest in learning from time to time. However, in fact, the navigation practice course plays a very important role in the course teaching of the whole navigation specialty. It is an important teaching premise to ensure that students apply their knowledge to practical work. Only effective navigation practice teaching can ensure that students master the corresponding skills. In the process of navigation practice teaching, information resource teaching is introduced, such as integrating animation, video and other multimedia means in the form of micro course, so as to attract students to have a more intuitive understanding of the navigation process, so as to enhance students' learning enthusiasm for navigation practice course.

4.2 Using information resources as teaching tools

In the teaching process of navigation practice, it is necessary to teach all kinds of data and conditions. Students can improve their theoretical application ability by accumulating experience. In the past navigation practice teaching, teachers can only interpret relevant cases to help students understand. The introduction of information resources in navigation practice teaching can use information resources as a teaching tool to enhance students' intuitive learning on the treatment of relevant problems through information means. For example, in the process of navigation practice teaching, the teaching effect of ship collision avoidance course is weak, and it is difficult for students to understand. The traditional teaching methods can not intuitively show the complex situation of ship collision avoidance. After the introduction of information resources, teachers can set up relevant shipping environment, simulate relevant communication and collision conditions with the help of computer computing ability, and explain examples with relevant animation simulation, so that students can analyze and learn from intuitive computer simulation data and results, so as to help students have a deeper understanding of ship collision avoidance, Strengthen students' safety awareness in future shipping work[3].

4.3 Create a practical teaching environment with information resources

As a highly applicable course, navigation practice teaching requires students to have a comprehensive understanding of ship related equipment and devices. In the past navigation practice teaching, students were often arranged for real ship teaching through field teaching. Students often only have a superficial understanding of relevant operations due to the lack of corresponding operations, The skills that students master are limited to theory, and they still need further study in practical work to be competent for the work of crew. In the traditional navigation practice teaching, it is difficult to create a practical environment for students, which is an important factor affecting students' relevant abilities. The application of information resources in navigation practice teaching can allocate corresponding simulation equipment for students, simulate the relevant working environment on the computer, and create a practical teaching environment. In the process of simulated operation, teachers can set corresponding teaching objectives, and students can have a more intuitive understanding of shipping equipment through personal operation. At the same time, through teachers' guidance on students' operation, students' mistakes and misunderstandings in operation can be found as soon as possible, so as to improve students' practical operation ability. In addition, by arranging simulation manipulators similar to the real bridge, a more real navigation working environment is created. Teachers configure multiple ships for students to simulate the real navigation situation, give students more real practice opportunities, and help students understand the use methods of various equipment and instruments on the bridge. Teachers can prepare simulation exercises, A variety of climatic conditions can be set to require students to make correct collision avoidance measures for possible ship collisions. In the traditional navigation practice teaching, various conditions and problems that are difficult to achieve can be achieved with the help of information resources and technology. With the help of information technology, all kinds of extreme weather and conditions can be reproduced, which can give students more opportunities to learn and train students to have good crew skills to deal with the changing voyage.

4.4 Record students' learning track with information resources

In the navigation practice teaching of promoting information resource management, from pre class to simulation operation in the course, it is to create a practical environment for students, and students' after-class feedback is also a very important teaching content, which can help students better analyze the problems existing in their own operation and improve them. With the help of information resource management, teachers can record the students' operation process, take the navigation practice teaching of each semester as the time interval, and record the students' learning track according to each simulated operation. Students can review their classroom learning process and analyze their existing problems.

5. Conclusion

As a very important course, navigation practice teaching plays a key role in the training of navigation professionals. The traditional navigation practice teaching is limited by sites, resources and so on, and the training effect for students is not satisfactory. However, in the information age, with the help of computers and networks, navigation practice teaching has also been greatly assisted. Through the introduction of information resources in the process of navigation practice teaching, it can not only improve students' learning enthusiasm, but also create a more realistic simulated practice environment for students, so as to improve students' practical operation ability and cultivate more talents with applied skills for the navigation industry

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