

Research on Teaching Reform of Marine Sports Training Major Based on Practical Orientation

Xuelin Yang

School of Physical Education, Beibu Gulf University, Qinzhou, Guangxi, China

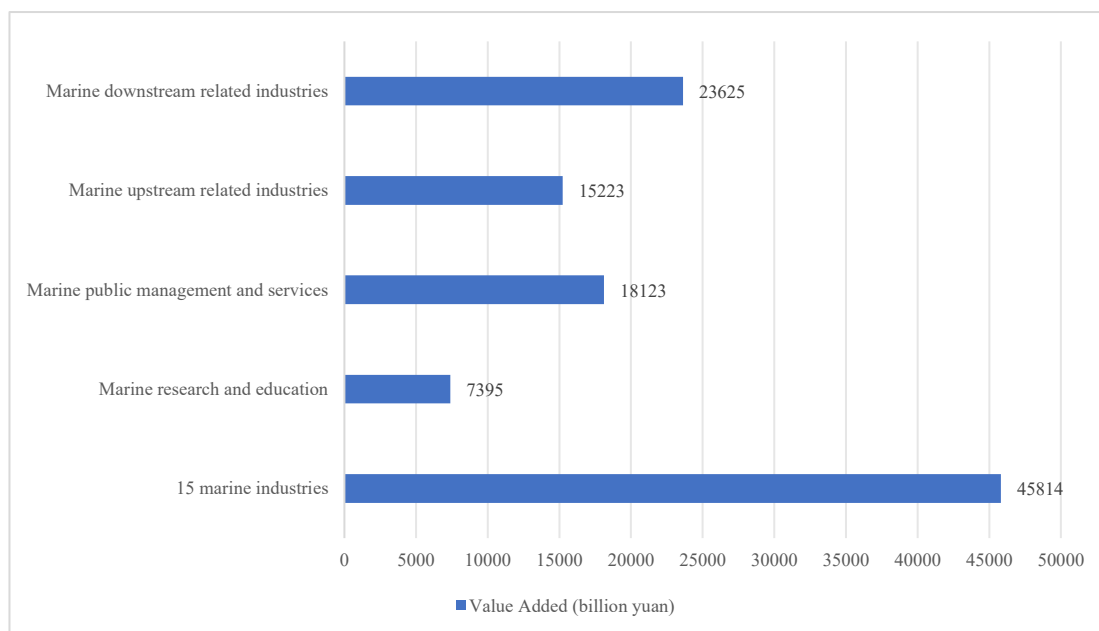
Abstract: To address the structural contradiction between the training of marine sports training professionals and the industry's demands, and to enhance the job adaptability of graduates, this paper conducts teaching reform research based on a practice-oriented approach. Based on the logic of current situation analysis and problem solving, the study pointed out that there were three major problems in the current teaching of Marine sports training, such as insufficient practical operation scenes, insufficient matching between teaching content and industry needs, and insufficient assessment and evaluation results. Schools should establish a more perfect school-enterprise sharing training system, dynamically update teaching content, and establish a comprehensive ability assessment and evaluation mechanism. The practice-oriented teaching reform can significantly improve the quality of talent training in Marine sports training. Schools should form a training mode with school-enterprise collaboration and dynamic update process orientation. The research results can provide certain reference for similar colleges to build a resource-sharing talent training system.

Keywords: Practice-oriented Ocean movement Professional training, Reform of teaching.

1. Introduction

In 2025, the national marine economic output will reach 11,018 billion yuan, an increase of 5.5% compared to the previous year, accounting for 7.9% of the country's GDP, which is 0.1 percentage points higher than the previous year. In terms of the structure of the three industries, the added value of the primary Marine industry is 492.3 billion yuan, the added value of the secondary industry is 4,101.7 billion yuan, and the added value of the tertiary industry is 6,424 billion yuan, accounting for 4.5%, 37.2% and 58.3% of the gross Marine product respectively. In 2025, the added value of 15

marine industries will be 4,581.4 billion yuan, an increase of 6.0% compared to the previous year; The added value of Marine scientific research and education was 739.5 billion yuan, an increase of 5.9% over the previous year; the added value of marine public management and services will be 1,812.3 billion yuan, an increase of 6.0% compared to the previous year; the added value of marine upstream related industries will be 1,522.3 billion yuan, an increase of 5.6% compared to the previous year; The added value of downstream Marine industries was 2,362.5 billion yuan, up by 3.8 percent over the previous year.



Data source: "China's Marine Economy Statistical Bulletin 2025" by the Ministry of Natural Resources

Among them, the demand for talents in specialized fields such as marine leisure sports, marine event operation, and marine emergency rescue has shown a significant annual growth rate. However, the current supply of talents from marine sports training programs is relatively insufficient [1]. There are few colleges and universities that set up Marine sports training in China, and the teaching system of most colleges and

universities still uses the traditional training mode of physical education, which has structural contradictions with the actual needs of the Marine industry, and there is a disconnection between the practical operation ability of graduates and the job demand. With practice-oriented as the core, carrying out the special Marine sports training teaching reform can enrich the theoretical system of classification training of higher

sports, expand the application scenario of practical teaching theory in the training of Marine talents, improve the job fitness of graduates, and promote the high-quality development of the Marine sports industry [2].

At present, scholars at home and abroad have carried out abundant research on the training mode of Marine sports professionals, such as the school-boat linkage mode of the United States Coast Guard Academy and the embedded curriculum system of Griesfield University in Australia. These deep connections between practical teaching and industry needs provide a theoretical framework for the cultivation of marine sports professionals in this paper. However, the existing research is relatively insufficient in the aspects of marine sports professional curriculum setting, especially the reconfiguration of specific courses and the evaluation of implementation effects. Based on this, this paper systematically diagnosed the existing practical teaching problems in the training of Marine sports professionals, and adjusted the teaching reform plan.

2. Analysis of the Current Teaching Situation of Marine Sports Training

2.1 Insufficient Practical Training in Real Scenarios

Due to the influence of school running logic and curriculum framework, many schools pay more attention to theory than practice in curriculum structure, and the proportion of theoretical courses is higher [3]. Moreover, most practical courses are mainly simulation training, and the actual operation training under real scenes is insufficient. Most marine sports majors in colleges and universities originated from traditional physical education or sports training majors. Their course settings mainly followed the theoretical framework of sports science. Considerations in the practical aspect did not fully incorporate the particularity of marine sports. However, in terms of industry demand, maritime practical training needs to coordinate multiple factors such as sea use, safety guarantee, and equipment operation and maintenance. For risk control and cost considerations, colleges generally prefer theoretical teaching and simulation training with lower cost to carry out teaching [4]. Students have relatively little practical experience in real marine situations, resulting in a mismatch between their ability structure and industry demands. Most schools lack dedicated maritime training bases, which cannot meet the teaching needs of new marine sports programs. Specialized maritime training bases not only need to obtain the right to use the sea area, but also need to meet the needs of maritime safety management. The construction cost of a single base is high, and the annual sports maintenance cost is high, and most local colleges and universities lack sufficient financial support. In addition, the unit price of surfboards, sailboats, underwater rescue equipment and other practical training equipment is also above 10,000 yuan on average. It is difficult for colleges and universities to keep up with the update speed of industry technology, which leads to a large gap between the practical training equipment of schools and the actual use of the industry. The majority of the school's professional teaching staff have a background in sports and enter the school directly after graduation, lacking practical work experience in the marine sports industry [5]. The school is still relatively

backward in the construction of double-teacher team, so teachers can only teach from books to books, and it is difficult to teach students their own work experience and solutions to specific problems in practical work.

2.2 Inadequate Adaptation of Teaching Content to Industry Requirements

The Marine sports industry has been developing rapidly in recent years, but most schools have not dynamically adjusted the teaching content according to the technical update of the Marine sports industry, and the existing teaching content is mainly taught in a fixed mode. But in recent years, the technologies in the marine sports industry have been evolving rapidly, such as powered surfboards, intelligent life-saving equipment, and digital operation of events. Most of these new technologies have an update cycle of only 1 to 2 years. The update of teaching content is seriously lagging behind this cycle, resulting in a significant time gap between the teaching content and industry requirements [6]. Most colleges and universities set the goal of talent training as specialized talents who master the basic theories and skills of Marine sports, but it does not correspond to the specific job ability that students need to master, which leads to an obvious gap between the school's talent training objectives and the actual needs of the industry. In fact, Marine sports training is not only a sports major, but also a Marine application major, and its talent training objectives must always follow the specific job needs of Marine sports industry. However, in the formulation of training programs, the school has not yet systematically sorted out the corresponding relationship between post ability requirements and curriculum Settings, which also causes the update of curriculum content to always lag behind the development of the industry. The current practical courses in Marine sports training scenarios lack effective connections and have not yet formed a complete chain for cultivating practical abilities [7]. Students find it difficult to apply and integrate the skills they have learned into actual working scenarios. The practical links of most courses are independently set up around the actual theoretical courses, without forming a systematic logical planning. For instance, some schools offer swimming courses that only teach basic swimming skills, and Marine rescue courses that only teach rescue theories. There are many connections between the two in practical applications, such as open water swimming and rescue in complex sea conditions. However, if students only conduct practical teaching around theoretical content, the skills they master will be scattered and unable to cope with the complex scenarios in actual work.

2.3 Evaluation Focuses on Results but Neglects the Process

The professional assessment results of most colleges are mainly based on the final theory examination, and the practical skills assessment is mainly based on a single action display, which is difficult to fully reflect the comprehensive application ability of students. Currently, there is a significant shortage of talents in positions such as maritime lifeguards, surfing instructors, sailing event operations, and marine emergency rescue. The demand for talents exhibits core characteristics of high skills, strong practice, and a multi-disciplinary nature [8]. Most practitioners need to

possess excellent professional skills and emergency response capabilities. In addition, Marine sports involves many fields such as sports, tourism, maritime emergency management, and so on. Practitioners need to have a compound knowledge structure to meet the diverse characteristics of the post. However, the existing assessment system has not fully covered the above indicators, and it is difficult to fully reflect the comprehensive quality of students. In fact, the work scene of Marine sports is highly uncertain, and graduates need to have the ability to deal with emergency situations and team work under complex Marine conditions. The scores of theoretical examinations and single action display are difficult to reflect students' comprehensive professional ability, but guide students to focus on theoretical recitation and standardized action practice. The cultivation of students' practical application ability is ignored. For example, most enterprises require graduates to have at least two vocational qualification certificates, require students to have no less than three months of relevant practical experience, and require graduates to master basic knowledge of Marine laws and regulations and environmental protection. However, these requirements are difficult to be reflected in the existing teaching inspection indicators. The current practical teaching evaluation system mainly relies on teachers' scores, and the evaluation results are highly subjective, making it difficult to reflect students' practical operation abilities in real scenarios. At the national level, no practical skills assessment norms for the Marine sports training major have been issued yet. There are significant differences among various institutions when formulating their own standards. Moreover, in most institutions, the actual skills assessment is scored separately by the course instructors, lacking the effective participation of authoritative third parties, and does not involve the evaluation of comprehensive abilities such as teamwork and emergency response. This leads to a relatively low correlation between the assessment results given by schools and the actual working abilities of students after graduation.

3. Practical-oriented Teaching Reform Plan Design

3.1 Establish a Regional Collaborative Training Base System Shared by Schools and Enterprises

In the direction of teaching reform, colleges and universities should be demand-oriented, focus on the actual talent demand of the Marine sports industry, optimize practical teaching, deeply integrate industry resources, and realize school-enterprise collaborative education [9]. First of all, colleges and universities can sign long-term training cooperation agreements with local ocean clubs, maritime rescue units and coastal cultural tourism enterprises, and jointly carry out training teaching on a quarterly basis by using the sea terminals and training bases of enterprises. Colleges and universities provide enterprises with reserve talents for directional training and obtain relevant use rights. The education management department should also promote the establishment of a marine sports training alliance among various types of institutions within the region. They should share cross-regional resources according to project divisions, coordinate kayaking and windsurfing training points, maritime rescue and swimming training points, as well as real sea conditions training, etc., to reduce the cost of individual

base construction. At the same time, the school can also use the existing swimming pool to install artificial wave and current simulation devices on the existing basis to simulate the near-shore situation of different wave speeds and heights, so as to reduce the safety risk of offshore training. Secondly, in terms of investment in practical training equipment, schools should incorporate new types of equipment such as power surfboards and intelligent life-saving robots into the annual teaching equipment update list, introduce new testing equipment from enterprises as teaching supplements, carry out school-enterprise cooperation with Marine sports equipment brands, and establish a student participation mechanism for the daily operation and maintenance of equipment. Guide students to proactively incorporate equipment maintenance and upkeep into their practical exercises, and reward students based on their practical credits. This not only reduces the equipment wear and tear rate but also enables students to acquire the necessary equipment maintenance skills for industry positions in advance. Finally, the school should create a training mechanism for teachers with double teachers' mutual employment, and support teachers with school sports professional background to work out in cooperative Marine sports enterprises and maritime rescue teams to complete first-line job practice. After passing the assessment, they will be recognized as dual-teacher instructors and receive practical guidance from students. At the same time, the school should establish a mechanism for industry mentors to be stationed permanently, selecting senior practitioners with qualifications such as senior coaches, maritime lifeguards, and event referees from the front line as part-time teachers to reside at the school and share real industry cases and practical experience with students. Schools should also regularly organize full-time teachers to participate in skill training, event management and emergency rescue drills in the Marine sports industry, and constantly update teachers' industry knowledge reserves, so as to improve the pertinence and adaptability of teaching training content.

3.2 Establish a Dynamic and Updated Teaching Content Iteration Mechanism

Colleges and universities should keep pace with the technological update cycle of the Marine sports industry and break the problem of lagging fixed textbooks. On the one hand, a content update committee should be established, composed of professional leaders from colleges and universities, technical backbones from enterprises, and industry associations. The committee should conduct a comprehensive investigation within the industry every year to fully understand the technical situation of the industry and incorporate the latest various technologies. Emerging contents such as the operation of power surfboards, the use of intelligent life-saving equipment, and the intelligent operation of events have been integrated into the school's teaching system. In terms of curriculum reform, the school should incorporate the emerging content into the existing teaching system in the form of modular elective courses and specialized practical training courses. This way, it can better meet the needs of frontline teaching. The school can also try "page-bound work manuals" as textbooks, replacing the traditional fixed textbooks [10]. Each semester, the teaching content update committee, in collaboration with the latest technological progress in the industry, updates the content of

the manual to provide students with more clear emerging teaching sections, ensuring that the knowledge points they acquire are always in complete synchronization with the latest applications in the industry. In addition, the school should also connect with the national swimming lifeguard, Marine sports coach, social sports instructor and other professional qualification certificate certification assessment content, and integrate these contents into the daily course modules to achieve curriculum integration teaching and practice-oriented teaching. On the other hand, schools should also clarify the corresponding relationship between job requirements and curriculum design. By using the reverse deduction method based on job capabilities, they can optimize the supply of talents. For different positions such as surfing instructors, sailing event operations, marine emergency rescue, and coastal sports services, the school should sort out the core job capabilities of the industry, break down the requirements for knowledge, skills, and qualities corresponding to each position, and use this as the basis to set up curriculum modules. In the third year, students can enter different positions for directional training according to their personal career planning after completing the two-year general basic courses. This diversion training can better complement the post exclusive skills, so as to adapt to the current diverse talent needs of Marine sports professional training. The school should also invite the leading enterprises in the industry to the school every year to carry out talent demand assessment, regularly understand the job capacity gap of the enterprise, analyze the employment standards of the enterprise, and timely adjust the weight of the curriculum in accordance with the standards to ensure that the school's Marine sports training professional talent training always conforms to the latest talent demand of the industry.

3.3 Establish a Comprehensive Talent Assessment System

In the evaluation of talents, the institutions should further reduce the theoretical scores of the final exams and increase the proportion of process-based practical assessments. Adjust the score proportion structure to more fully reflect students' comprehensive vocational ability, and fully meet the needs of the industry in terms of assessment content. Incorporate marine laws and regulations, marine ecological protection knowledge, and the acquisition of professional qualification certificates into the existing assessment bonus items. Also, include relevant practical experience required by enterprises as a necessary condition for the final assessment of graduates. The evaluation criteria of practice assessment should be based on students' problem-solving ability under uncertain scenarios, and scene-based practice assessment schemes should be set up. Evaluate students' core capabilities such as marine emergency response, team collaboration rescue, etc. In terms of assessment methods, the school should fully involve authoritative third-party institutions in the assessment and jointly formulate unified practical training skill assessment norms. Implement a cooperative assessment model involving both the school and the enterprise, and incorporate the training results of students in off-campus practical training into the school's final assessment results. The enterprise scoring authorization should be more than half to evaluate the specific performance of students in real work scenarios. The school should distribute ability evaluation questionnaires to the graduate's employment units every year to comprehensively

understand the enterprises' assessment of the students' practical abilities. Based on the feedback from the enterprises and the deviations in students' actual working abilities, continuously adjust the assessment indicators and scoring standards, and continuously optimize the school's assessment direction.

4. Conclusion and Outlook

This study systematically analyzes the current situation of Marine sports training teaching, and believes that there are some problems in current Marine sports training, such as emphasizing theory over practice, disconnection between content fragmentation and industry demand, and imperfect teaching system evaluation, which cause obvious contradictions between the school's talent cultivation and the industry demand of Marine sports training. Schools need to restructure the practical teaching curriculum system, optimize the supply of teaching content and the methods of teaching evaluation. Deeply integrate industry resources, realize collaborative education between schools and enterprises, and cultivate high-quality applied talents in line with industry needs. In essence, teaching reform is a process of continuous optimization. Schools need to establish a dynamic quality monitoring and adjustment mechanism, and continuously improve the teaching system according to the development of the industry and the effect of teaching reform implementation to ensure the continuous improvement of the quality of talent training.

The curriculum design and practical teaching model formed by this research have certain reference significance for enriching the theoretical and practical aspects of practical teaching in sports-related majors. It can also adapt to the development of the industry and provide high-quality talent support for the Marine sports industry. In the future, with the in-depth implementation of the strategy of Marine power and the rapid development of Marine sports industry, colleges and universities should continue to innovate teaching reform models to achieve multi-win results for college students, enterprises and industries. Further explore the application of digital technology in practical teaching, build a virtual simulation practical teaching platform, reduce the cost of practical teaching, improve teaching results, and through more comprehensive quantitative indicators and third-party evaluation institutions, achieve dynamic and comprehensive assessment of the quality of talent cultivation, and further optimize the talent cultivation model.

References

- [1] Zhang Di. The Realistic Dilemmas and Optimization Paths of Teaching Reform in Marine Science Specialization from the Perspective of New Quality Production Forces [J]. Education Observation, 2026, 15 (17): 95-97.
- [2] Guo Jingjing. The Application of Smart Wearable Devices in College Swimming Specialized Teaching [J]. Contemporary Sports Science, 2026, 16 (1): 64-67.
- [3] Tan Ge, Mai Yingping, Zhang Yi. Exploring the Teaching Reform of Management-related Specialized Courses through Deep School-Enterprise Cooperation under the New Liberal Arts Context - Taking the

- Business School of Guangdong Ocean University as an Example [J]. *Industrial Innovation Research*, 2025, (20): 193-195.
- [4] Hu Ning. Research on Teaching Reform of Marine Equipment and Technology Specialized Courses Based on Interdisciplinary Integration [J]. *Modern Manufacturing Technology and Equipment*, 2025, 61 (10): 215-217.
- [5] Zhuang Shizhi. Exploring the Teaching Reform of “Course Ideological Education” in Marine Law Introduction in Maritime Colleges [J]. *Scientific Consulting*, 2025, (3): 123-126.
- [6] Guo Zhiwei, Sheng Meiping, Wang Minqing, Yang Honghui, Fan Jindi. Exploring the Teaching Reform of Basic Courses for Ship and Marine Engineering Specialized Courses under the New Engineering Discipline Context [J]. *Higher Education Journal*, 2025, 11 (S1): 51-58.
- [7] Yang Yufeng. Exploring the Teaching Reform of the Course on Maritime Emergency Situation Handling and Rescue Command [J]. *China Education Technology Equipment*, 2021, (14): 94-95+98.
- [8] Wang Haiyan, Shi Junhua, Lai Jian. Research on the Current Situation and Development Path of College Sailing Competitions [J]. *Contemporary Sports Science*, 2022, 12 (5): 169-172+178.
- [9] Wu Feiteng, Ge Fengmin. Research on the Current Situation and Development Strategies of Sailing Sports in Chinese Universities [J]. *Sports Science Research*, 2021, 25 (4): 35-40.
- [10] Huang Suzhen. The Current Situation, Problems and Countermeasures of China’s Sailing Sports Development [J]. *Sports Adult Education Journal*, 2020, 36 (4): 37-40.