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Research on the Construction and Implementation Path of Navigation Characteristic Physical Education Curriculum System Based on Vocational Ability Orientation

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Abstract: For maritime students, the cultivation of physical and vocational abilities needs to be combined in education. The vocational abilities required by this vocational education model are still difficult to effectively support through existing physical education courses. This article, based on the guiding ideology of professional competence, points out the main problems in the training objectives, implementation process, and evaluation system of current maritime characteristic physical education courses, and proposes solutions. It designs curriculum training objectives that are related to job positions, integrates maritime technology course content, and adopts diverse evaluation methods to form a course structure that matches professional needs. The purpose is to improve the job ability and physical fitness level of maritime students, and provide methodological basis for subsequent theoretical exploration and practical application.

Keywords: Vocational ability orientation; Maritime sports; Curriculum system; Practical path

The aviation transportation industry has put forward increasingly high requirements for professional knowledge and versatile talents. The teaching of marine related majors is facing two challenges: optimizing the curriculum system and transitioning towards abilities or job responsibilities. Physical education courses are a necessary component of talent cultivation in the marine field, responsible for the teaching mission of exercising physical fitness, honing mental abilities, and improving job skills. But the existing educational content is difficult to meet the actual production requirements, and the teaching direction does not match the real needs. In order to better assist in the cultivation of vocational abilities in marine positions, it is urgent to coordinate the overall structure of marine characteristic sports courses from multiple dimensions such as curriculum goal setting, curriculum system composition, and evaluation system, so that the teaching content can directly correspond to job responsibilities.

1. Overview of the Navigation Characteristic Physical Education Curriculum System

For maritime majors, students are required to have physical fitness, pressure resistance, and emergency response skills. Conventional physical education teaching cannot meet the needs of maritime professional skills. Offer physical education courses with maritime characteristics to meet job requirements and be included in the teaching syllabus. For example, training for high-intensity physical fitness, sports coordination, and on-site crisis planning can enhance the functionality and practicality of this physical education course. The purpose of establishing courses is not only to provide basic physical education training, but also to enhance students' comprehensive abilities to complete various work tasks in complex water environments in the future.

2. Construction of a maritime characteristic physical education curriculum system guided by professional abilities

For maritime students, physical fitness and operational skills must meet the qualifications for employment. Physical education teaching can no longer meet the requirements of vocational training. In order to better highlight the characteristics of vocational ability training in physical education teaching and ensure the effectiveness of physical education teaching, vocational ability should be the core concept, and a scientific and reasonable curriculum objective system, content structure, and evaluation mode should be constructed to promote the close connection between physical education teaching and maritime positions.

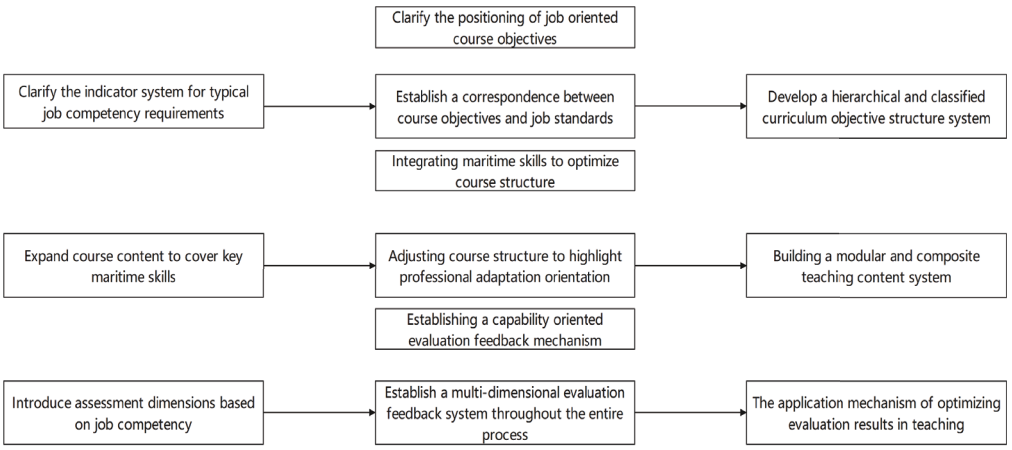

Figure 1 Construction of a maritime characteristic physical education curriculum system guided by professional abilities

2.1 Clarify the positioning of job oriented course objectives

The work in offshore positions requires both high-intensity physical labor and the ability to operate precision instruments and respond to emergencies. Therefore, the requirements for work ability not only include basic physical fitness, but also emphasize comprehensive abilities in multiple aspects, and consider multiple comprehensive qualities such as endurance and willpower. In order to meet multiple quality requirements, educational requirements are set based on typical maritime job responsibilities, core competency elements are extracted, and physical education curriculum requirements are combined with vocational competency standards, aiming to achieve effective matching between educational goals and vocational needs. The integration design of educational content can be strengthened through a comparative model using "job competency elements - physical education curriculum indicators" to enhance the goal orientation and career fit of the curriculum. This model can be represented as:

$$C\_T = f(C\_P, W\_T) \quad (1)$$

Among them,C_T Set course objectives, C_P Gather job competency requirements, W_T Assign weights to the function. According to this model, the objectives of the course can ensure that the physical education course content not only provides basic training, but also provides content support for the skills and qualities required for professional positions, thereby enhancing the vocational orientation and practical relevance of the course objectives.

2.2 Integrating Navigation Skills to Optimize Course Structure

The requirements for physical skills in maritime operations present highly specialized characteristics, so traditional sports activities are difficult to effectively develop the abilities required for the position without targeted adjustments. In response to the adjustment of physical education courses, the teaching content should be reorganized based on the core tasks of ocean homework work, and the factors of strength training and vocational skills content should be organically combined. For example, movements such as heavy object handling, narrow space activities, and dangerous situations in sea conditions should be the main content of physical education teaching activities, and the teaching parts should be divided according to abilities and fields. Furthermore, by matching the importance of abilities with the difficulty of training, the balance and coordination of structural configuration can be achieved. Its logic can be expressed as:

$$S\_C = \sum(A\_i \times W\_i) \quad (2)$$

Among them,S_C For the adaptability of course structure,A_i For the th i Training content for item ability indicators,W_i Give weight to their abilities in the position. This model helps to achieve professional adaptability of physical education teaching content, strengthen the functional orientation of curriculum structure in supporting the formation of maritime professional abilities, and promote the professional collaboration and practical transformation of physical education teaching.

3. Implementation path of maritime characteristic physical education curriculum guided by professional abilities

3.1 Setting up a combination of practical operation and teaching organization method

The requirements for practical skills in physical education courses for maritime majors are much higher than those for ordinary sports projects. To more effectively enhance students' skills in dealing with complex marine environments, the traditional "project based, class based" teaching method can be transformed into task driven, scenario based, and physical and skill collaborative teaching methods. With vocational tasks as the main line, physical fitness training and job skills training can be organically integrated through

practical training modules to construct a teaching process that meets the needs of job abilities. The following is a comparison of different teaching organizational models:

Table 1 Comparison between Practical Teaching Mode and Traditional Mode

Comparing dimensions	traditional teaching mode	Practical combined teaching mode
content organization	Fixed projects, standard class hours	Modular tasks, cross scenario integration
Teaching objectives	Pay attention to physical fitness and skills	Emphasize job competency and task adaptation
Teaching methods	Instruction based demonstration+repetitive training	Scene simulation+problem oriented approach
Learning outcomes	Technical mastery and achievement standards	Skill transfer and improvement of job competency

This model is more in line with the requirements of practical positions, and can guide students to complete complete complete tasks in comprehensive scenarios, enhance their practical abilities and application levels, and truly transform physical education classrooms into vocational skills classrooms.

3.2 Promote the collaborative construction of training platforms between industry and education

On the basis of physical training objectives, it is necessary to highlight students' ability to cope with real-life job situations and their actual work performance in the future. Therefore, it is necessary to strengthen cooperation between universities, shipbuilding enterprises, training institutions, etc., and build a co built training platform that integrates training, evaluation, and feedback. Combined with real work environments and industry standard materials, students can gradually acquire physical fitness and teamwork abilities for future work through learning. As shown in the table below:

Table 2 Comparison between School Enterprise Collaboration Platform and Independent Training on Campus

Comparing dimensions	On campus independent training mode	Industry Education Collaborative Training Platform Model
Training Resources	Campus venue and standard equipment	Enterprise facilities, simulation platform, professional instructors
Training content	Basic physical fitness and skill training	Job oriented tasks and scenario based projects
Teaching team	On campus teachers have unilateral leadership	Joint guidance between schools and enterprises, participation of industry mentors
Teaching Feedback	In class assessment is the main focus	Real time monitoring+comprehensive evaluation of job capabilities

The construction of collaborative platforms not only expands the teaching space, but also brings physical education courses closer to maritime skills in terms of content, achieving an organic integration of theoretical teaching and practical training.

4. Conclusion

For sports courses with maritime characteristics, vocational abilities should still be taken as the guide, and the positioning of course objectives, curriculum system, and evaluation mode should be comprehensively considered. This can be achieved through setting practical content, jointly building educational platforms, and adopting multiple forms of assessment methods. Gradually shifting the physical education curriculum from knowledge training to meeting the needs of job positions, the construction of the curriculum system continuously promotes the simplification and effectiveness of the curriculum system, and promotes the cultivation of excellent maritime talents with a solid foundation. Future work still needs to strengthen resource integration and enhance data analysis, so that physical education courses can continue to play a cornerstone role in professional education.

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