Optimizing Practical Pathways for Industry-Education Integrated Teaching Management in University Sports Programs

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Abstract. Against the backdrop of rapid development in the sports industry and continuous reforms in higher education, the sports industry is placing higher demands on the practical abilities and comprehensive qualities of graduates from university sports programs. Integrating industry and education, and optimizing the teaching management system, has become a crucial way for university sports programs to improve the quality of talent cultivation. This paper focuses on optimizing the practical path of industry-education integration in university sports programs. Using literature review, comparative analysis, and logical analysis methods, it analyzes the problems existing in the industry-education integration teaching management of university sports programs. The study finds that current university sports programs still face problems such as insufficient alignment between curriculum design and job requirements, imperfect school-enterprise collaborative teaching management mechanisms, and an inadequate institutional guarantee system. Based on this, practical paths are proposed from a teaching management perspective, including optimizing the curriculum system, improving school-enterprise collaborative teaching management mechanisms, and strengthening institutional guarantees. The study concludes that systematically promoting the optimization of teaching management practices will help improve the effectiveness of industry-education integration in university sports programs and enhance the alignment between talent cultivation and the needs of the sports industry.

Keywords: Industry-education integration, university sports programs, practical pathways.

1. Introduction

With the continuous expansion of China's sports industry and the ongoing upgrading of its industrial structure, the sports service industry, sports technology, and health industry are placing higher demands on the practical abilities, innovative awareness, and professional qualities of sports professionals. University sports programs, as important carriers for cultivating specialized sports talents, have a direct impact on the high-quality development of the sports industry and the implementation of the Healthy China strategy [1]. In recent years, industry-education integration, as an important path to promote the reform of talent training models, has made some progress in vocational education and some areas of higher education. Related research mainly focuses on the construction of cooperation models, curriculum system reform, and the implementation of practical teaching. However, existing research shows that systematic research on industry-education integration in university sports programs is still relatively insufficient, especially in the optimization of teaching management mechanisms, the construction of operational support systems, and the improvement of collaborative education effectiveness [2,3]. Teaching management, as a crucial link connecting talent training objectives and the training process, directly affects the effectiveness of industry-education integration. Therefore, systematically examining the practical difficulties of industry-education integration in university sports programs from a teaching management perspective and proposing optimization paths has both important theoretical value and significant practical significance.

Based on this, this paper focuses on optimizing the practical path of industry-education integration in teaching management of university sports majors, and conducts research around the prominent problems currently existing in industry-education integration teaching management in university

sports majors. The research mainly employs the literature review method to systematically review relevant research findings at home and abroad; uses comparative analysis to conduct a horizontal comparison of different industry-education integration teaching management models; and combines logical analysis to summarize and conclude the operating mechanism of industry-education integration teaching management in university sports majors. This paper aims to provide theoretical references and practical insights for universities to deepen industry-education integration, improve teaching management levels, and enhance talent training quality in sports majors through systematic analysis and path construction.

2. Value Analysis of Industry-Education Integration in University Sports Education Programs

Under the background of the Healthy China strategy and the construction of a strong sports nation, the sports industry has become an important part of national economic and social development. The "Outline for Building a Strong Sports Nation" explicitly states the need to strengthen the sports talent training system and considers high-quality sports talent as a key support for promoting the development of the sports industry and sports business [4]. University sports programs bear the important mission of cultivating high-level sports professionals, and their teaching management models and talent training quality directly affect the development efficiency of the sports industry. In this context, industry-education integration, as a talent training model centered on collaborative education, has significant practical implications for optimizing the teaching management system and improving the quality of education in university sports programs.

2.1. Meeting the Sports Industry's Demand for University Sports Talent

Optimizing teaching management through industry-education integration helps university sports programs accurately meet the talent needs of the sports industry [5]. On the one hand, through school-enterprise collaboration in teaching management and talent training program development, universities can systematically understand the specific requirements of the sports industry for professional abilities, professional ethics, and practical skills, thereby dynamically adjusting course objectives, teaching content, and practical aspects at the teaching management level. On the other hand, with the support of the teaching management mechanism, introducing enterprises to participate in practical teaching and evaluation provides students with a stable and standardized practical training platform, effectively improving their job adaptability and practical application skills. In addition, enterprise participation in the teaching management process of university sports programs can also provide universities with cutting-edge industry development information and technical support, promoting the scientific and forward-looking nature of teaching management decisions.

2.2. Adapting to the Needs of Modern Sports Technology Talent Training and Teaching Management Reform

With the rapid development of sports technology, smart sports, and sports data analysis, modern sports talent training places higher demands on teaching management models [6]. Industry-education integration helps university sports programs promote the simultaneous upgrading of teaching management and talent training models. First, at the teaching management level, through school-enterprise collaboration in building curriculum systems and practical platforms, the teaching content becomes more closely aligned with the actual development of industry technology; second, industry-education integration strengthens the weight of practical teaching in teaching management, which is conducive to building a teaching operation mechanism oriented towards ability cultivation; third, by integrating university research resources and enterprise technical resources, it promotes the integration of sports technology innovation achievements into teaching management and teaching practice, improving the overall level of university sports programs.

2.3. Adapting to the Development Trends of Higher Education Teaching Management Reform

Currently, higher education teaching reform emphasizes student development as the center and quality improvement as the core [7]. University sports programs, in promoting industry-education integration, can implement the requirements of educational reform by optimizing the teaching management system. On the one hand, teaching management places greater emphasis on students' practical abilities and career development needs, achieving an organic integration of teaching objectives and industry demands; on the other hand, collaboration between universities and enterprises promotes innovation in teaching management systems and methods, enhancing the flexibility and effectiveness of the teaching process. At the same time, by organizing students to participate in social sports services and industry practices, university sports programs further strengthen students' sense of social responsibility and service capabilities in teaching management, expanding the social value of talent cultivation.

3. Challenges Faced in the Current Stage of Industry-Education Integration in University Sports Programs

3.1. Curriculum Design Needs Optimization to Align with Enterprise Job Requirements

In promoting the integration of industry, academia, and research in university sports programs, effectively supporting talent cultivation goals through curriculum design and ensuring it better aligns with the talent needs of the sports industry is a crucial aspect of teaching management [8]. However, some university sports programs have not fully aligned their curriculum structure and talent cultivation positioning with the actual development of the sports industry, leading to a discrepancy between cultivation goals and industry demands. This hinders the effective implementation of industry-academia-research integration in teaching management and affects the improvement of the overall quality of sports professionals. With the rapid development of the sports industry and the continuous updating of technology, the industry has placed more diverse and dynamic demands on the competency structure and professional qualities of sports professionals. However, some university sports programs lag behind in updating curriculum content and teaching organization methods, resulting in outdated textbooks and a mismatch between teachers' professional knowledge structure and industry development. This makes it difficult for the curriculum system to reflect the new trends and demands of the sports industry in a timely manner, thus affecting the realistic orientation of talent cultivation goals. Against this backdrop, there is a gap between the competency structure of university-trained sports graduates and the employment standards of enterprises. In the recruitment process, sports companies often place greater emphasis on graduates' practical abilities, professional qualities, and job adaptability. However, the teaching and management of some university sports courses still focus on theoretical teaching and traditional practical training, with insufficient attention paid to the systematic cultivation of professional abilities and work skills. This makes it difficult for students to quickly adapt to job requirements after entering the company, further highlighting the lack of connection between the curriculum system, training objectives, and the needs of the recruitment market.

3.2. Insufficient Depth of Industry–Education Integration and Weak Long-Term Cooperation

School-enterprise cooperation is an important foundation for achieving industry-education integration [9]. However, from the perspective of teaching management practice, the school-enterprise cooperation in some university sports programs remains at a relatively shallow level, lacking a long-term teaching management mechanism that can continuously promote deep collaboration between the two parties. For example, cooperation content is mostly concentrated on student internships, lectures by enterprise experts, or short-term skills training, and has not yet deeply involved in key aspects such as curriculum design, teaching management decision-making, textbook development, and scientific research collaboration. This superficial cooperation model makes it

difficult to fully utilize the advantages of enterprises in practical resources and industry experience, and it is also difficult to provide students with a systematic and stable experience in a real professional environment. At the same time, there is a lack of a stable communication platform and collaborative operating mechanism between schools and enterprises at the teaching management level. Cooperation is mostly project- or activity-oriented, lacking long-term planning and continuous promotion, which affects the systematicness and continuity of industry-education integration in teaching management. Due to the lack of a clear cooperation framework and common goals, it is difficult for schools and enterprises to form a stable community of interests in teaching management collaboration, thus weakening the intrinsic motivation for industry-education integration.

3.3. The Teaching Management System under School-Enterprise Collaboration Needs Further Improvement

Against the backdrop of deepening integration of industry and education, the construction of a teaching management system is a crucial prerequisite for the smooth implementation of industry-education integration in university sports majors [2]. However, in reality, some university sports majors still have shortcomings in the construction of industry-education integration teaching management systems. Industry-education integration involves multiple stakeholders, including universities, enterprises, and relevant management departments, requiring a system to clarify the responsibilities, rights, and obligations of each party in teaching management. However, some universities currently lack systematic and comprehensive relevant systems, leading to problems such as unclear responsibilities and poor management coordination during implementation. At the same time, due to inadequate supervision mechanisms and insufficient understanding and implementation of the systems by some management entities, some teaching management systems remain superficial and fail to play their due role in practice. With the continuous adjustment of the sports industry structure and the ongoing reform of higher education, the industry-education integration teaching management of university sports majors faces new situations and challenges, and the existing systems urgently need dynamic improvement and updating. In addition, the relatively weak incentive and restraint mechanisms in system design also, to some extent, affect the continuous improvement of the effectiveness of industry-education integration teaching management.

4. Optimizing Industry–Education Integration in University Sports Teaching Management

4.1. Building a Curriculum System that Meets the Actual Needs of Enterprises

To ensure that the curriculum system of university sports programs effectively aligns with the development needs of sports enterprises at the teaching management level, it should be guided by job competency standards and skill requirements [10]. Scientific and reasonable competency training content should be integrated into the existing curriculum system to achieve systematic management throughout the entire talent cultivation process, thereby improving the quality of talent cultivation. In building the curriculum system, university sports programs should first conduct comprehensive research on the competency requirements of sports enterprises for professional talents by organizing teachers, students, and relevant management personnel to conduct surveys, on-site visits, and discussions. They should also strengthen communication and cooperation with enterprises to gain a deep understanding of their specific needs in terms of professional skills, comprehensive qualities, and teamwork, providing a basis for curriculum system optimization. Secondly, the existing curriculum structure should be systematically adjusted in teaching management, organically integrating new knowledge, technologies, and methods related to the sports industry into the teaching content to enhance the cutting-edge nature and practicality of the courses. Thirdly, practical teaching and training sessions should be strengthened to improve students' practical operation and problem-solving abilities. Targeted elective courses should be set up based on the individualized needs of

enterprises, and enterprise experts should be invited to participate in curriculum design and practical teaching to enhance the industry adaptability of the curriculum system. Finally, the curriculum system should be continuously improved through enterprise feedback, student evaluations, and market research to achieve dynamic optimization of teaching management.

4.2. Establishing Sustainable School–Enterprise Collaboration Mechanisms

As an important base for cultivating sports talents, the quality of teaching management in university sports programs directly affects the effectiveness of talent cultivation and students' employability [11]. Under the background of industry-education integration, establishing a long-term mechanism for school-enterprise collaboration in teaching management is of great significance for improving the quality of education and promoting the development of the sports industry. Firstly, through school-enterprise cooperation, university sports majors can leverage corporate resources to improve their practical teaching management system and provide students with a stable practical platform. Meanwhile, companies can enhance their brand influence and technological innovation capabilities by participating in teaching management and research activities. Secondly, universities and enterprises should jointly establish a standardized collaborative mechanism for teaching management, such as forming a school-enterprise cooperation management organization, clarifying cooperation content, operating procedures, and quality evaluation standards to ensure the orderly progress of cooperation. Thirdly, schools and enterprises can conduct joint research on practical problems in the development of the sports industry, promoting the transformation of research results at the teaching management level and achieving deep integration of educational and industrial resources. Finally, through measures such as the construction of information sharing platforms, the training of "dual-qualified" teachers, the joint development of talent training programs, and the improvement of cooperative evaluation mechanisms, the depth and breadth of cooperation in industry-education integration teaching management for university sports majors can be further expanded.

4.3. Improving Policy and Institutional Support for Industry–Education Integration

The promotion of industry-education integration teaching management in university sports majors requires clear policy guidance and a sound institutional guarantee [12]. Firstly, relevant departments should encourage sports enterprises to participate in university talent training through policy guidance, clarifying corporate responsibilities and obligations while providing corresponding policy support and incentive measures. University sports majors should jointly formulate implementation details for industry-education integration teaching management with enterprises, clarifying cooperation methods, management responsibilities, and benefit distribution, and establishing a teaching management evaluation and feedback mechanism to ensure continuous improvement of cooperation. Secondly, in the process of deepening industry-education integration, relevant laws and regulations should be further improved to clarify the rights and obligations of both schools and enterprises in teaching management, and to strengthen the protection of students' legitimate rights and interests during their practical training, ensuring the standardized operation of teaching management through the establishment of a supervision mechanism. Finally, industry-education integration teaching management requires not only the collaboration of schools and enterprises but also the introduction of third-party forces such as industry associations and social organizations to jointly participate in information services, project matching, and quality evaluation, forming a diversified and collaborative teaching management guarantee system.

5. Conclusion

This study analyzes the practical aspects of industry-education integration in physical education programs at universities, systematically identifying the main problems currently faced in promoting industry-education integration in these programs. The results show that a lack of close alignment between the curriculum and the demands of the sports industry, inadequate mechanisms for collaboration between universities and enterprises in teaching management, and an incomplete system of relevant institutional safeguards are significant factors hindering the effectiveness of industry-education integration in university physical education programs. Based on these findings, the study proposes a practical approach from a teaching management perspective, focusing on optimizing the curriculum, improving collaborative teaching management mechanisms between universities and enterprises, and strengthening institutional safeguards. The study concludes that only through systematically advancing reforms in teaching management can the operational quality and effectiveness of talent cultivation in university physical education programs through industry-education integration be effectively enhanced.

This study addresses, to some extent, the insufficient attention given to the teaching management perspective in existing research on industry–education integration within university sports programs. By focusing on teaching management as an entry point, this research explores ways to optimize the practical implementation of industry–education integration, thereby expanding the scope of theoretical studies related to university sports education and collaborative education models. From the author's perspective, positioning teaching management at the center of analysis allows for a more concrete understanding of how integration mechanisms operate in practice rather than remaining at a conceptual level. At the practical level, the proposed path offers referential value for university sports program administrators, teaching coordinators, and sports enterprises involved in school–enterprise cooperation. Through analysis, it can be seen that this approach may assist stakeholders in refining talent training schemes, adjusting teaching management structures, and improving the overall effectiveness of collaborative education. These improvements are expected to support a closer alignment between talent cultivation in university sports programs and the actual demands of the sports industry, contributing to a more sustainable integration process.

It should be noted that this research is subject to certain methodological and contextual limitations. The analysis primarily relies on literature review and logical reasoning to examine the teaching management path of industry–education integration in university sports programs, while empirical data and case-based evidence remain limited. This constraint inevitably affects the depth of validation of the proposed framework. Subsequent studies could expand on this foundation by introducing questionnaires, interviews, or empirical investigations, allowing for comparative examinations of teaching management practices across different types of universities. At the same time, future research may benefit from taking regional characteristics of sports industry development into account. By doing so, more diversified and context-sensitive approaches to optimizing teaching management could be identified, which would further enhance the scientific rigor and practical applicability of related research outcomes.

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