

Research on the Docking between the Talent Cultivation Mode of Physical Education Majors and Market Demand under the Perspective of Industry-Teaching Integration

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Abstract: In recent years, with the rapid development of the sports industry, the demand for professional talent in the sports sector has been increasing, particularly the demand for high-quality, interdisciplinary talent talents. However, the existing cultivation model for sports majors in China faces notable challenges, including a pronounced disconnect between educational training and industry needs, which hampers graduates' employment competitiveness. Based on the theoretical framework of industry-education integration, this study employed surveys, in-depth interviews, and statistical analysis to investigate sports colleges and industry enterprises across various regions in China, aiming to comprehensively assess the current cultivation practices. Through empirical data collection and comparative analysis, the study identified key mismatches between curriculum design and industry expectations, particularly the excessive emphasis on academic theory at the expense of practical skills training. The findings highlight that weak collaboration between educational institutions and enterprises further exacerbates students' lack of handson experience and innovative abilities. Concluding, this paper underscores the necessity of optimizing the cultivation model through measures such as strengthening school-enterprise partnerships, embedding enterprise participation into curriculum development, and expanding internship opportunities, thereby enhancing students' practical competencies and employability. This research provides meaningful insights for promoting the reform of sports education and better aligning talent supply with industry demand.

Demand; Education Model; Career Development 1. Introduction The sports industry has experienced rapid

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growth in recent years ^[1], becoming one of the most dynamic sectors globally. This growth has led to a surge in demand for professional talents who possess not only specialized knowledge but also practical skills and interdisciplinary abilities. In China ^[2], as the sports industry continues to expand, the need for highly qualified, versatile professionals has become more pressing ^[3]. However, the sports education system is struggling to keep pace with these evolving industry demands. There is a significant gap between the curriculum provided by sports institutions and the practical skills required by the market, leading to a mismatch between the talents produced by universities and those needed in the sports industry [4].

The traditional model of sports education predominantly emphasizes theoretical knowledge, with limited focus on practical application and professional competencies. This often leaves graduates ill-prepared for the demands of the sports sector. For instance, while sports education programs may cover foundational knowledge, such as sports science, management, and theory ^[5], they fall short in terms of equipping students with the hands-on experience and problem-solving skills necessary to thrive in a competitive job market. Additionally, the integration between academia and industry remains weak [6], with limited opportunities for students to engage in internships, practical training, or collaborative projects with businesses and organizations in the sports field.



In this context, the concept of industryeducation integration has emerged as a potential solution to bridge the gap between educational institutions and the labor market. Industry-education integration refers to the collaboration between educational institutions and industry players to align the curriculum with market needs, provide students with realworld experience ^[7], and ensure that graduates possess the skills required by employers ^[8]. This approach aims to create a more dynamic and responsive educational environment that better equips students for the demands of the sports industry.

This study seeks to explore how industryeducation integration can optimize the talent cultivation model for sports majors, ensuring that educational supply aligns with market demand. The research focuses on identifying the current issues in the talent development process, analyzing the needs of the sports industry, and proposing practical solutions to address these challenges. By integrating theoretical analysis with empirical data, this paper will provide insights into the potential benefits and challenges of industry-education integration in the context of sports education.

The importance of this research lies in its potential to contribute to the ongoing reform of sports education in China. As the sports industry continues to grow and evolve, there is an increasing need for educational systems to adapt and produce graduates who are not only knowledgeable but also skilled and capable of meeting the specific demands of the industry. By optimizing the talent cultivation model and strengthening the ties between academia and industry ^[9], this study aims to support the development of a more robust and sustainable sports education system in China.

The paper is structured as follows: Chapter 2 reviews the literature on industry-education integration, its benefits, and its application in various sectors, including sports. Chapter 3 outlines the methodology used in this study, including data collection and analysis techniques. Chapter 4 presents the findings from the surveys and interviews conducted institutions and with sports industry stakeholders. Finally ^[10], Chapter 5 provides conclusions and recommendations based on the research results.

2.Theoretical Background

2.1 The Concept and Development of Industry-Education Integration

Industry-Education Integration refers to the deep collaboration between the education system and the industrial sector, where schools and businesses, as well as industries, cooperate to align educational supply with market demand, nurturing versatile talents with practical skills and innovative thinking. Industry-Education Integration emphasizes not only the provision of theoretical knowledge but also the cultivation of practical training and response to industry needs.

Globally, Industry-Education Integration has become a major focus of educational reform in many countries. For example, Germany's "dual system" education model has been very successful in vocational education, combining theory with practice through collaboration between schools and companies. In China, the concept of Industry-Education Integration has gained attention. gradually With the transformation of the Chinese economic structure and industrial upgrading, many universities have started collaborating with industry companies to innovate in curriculum design and talent cultivation programs to meet market demands and enhance students' employability.

However, despite the progress of Industry-Education Integration in various fields, it faces challenges in sports education. Especially in the context of rapid development in the sports industry and the diversification of market demands, the existing sports education system has not sufficiently addressed these changes. Therefore, further promoting Industry-Education Integration in sports education has become an urgent issue.

2.2 Current Situation and Issues in the Talent Cultivation Model for Sports Majors The current talent cultivation model for sports majors in China still faces many issues. First, traditional sports education emphasizes theoretical knowledge but neglects the cultivation of practical skills. Although courses cover areas such as sports theory, exercise physiology, etc., they lack practical content aligned with industry needs. As a result, students often graduate with theoretical knowledge but lack practical experience, which limits their ability to meet the demands



of the job market.

Secondly, the curriculum design in many sports institutions is disconnected from the diverse needs of the sports industry. As emerging fields like esports, sports media, and fitness industries rapidly develop, traditional sports education models have not timely adjusted their curriculum and cultivation direction. Students entering these new industries often require additional skills training, which negatively impacts their competitiveness in the job market.

mechanism Moreover, the for schoolenterprise cooperation is still underdeveloped. Many universities have established partnerships with companies, but most of these collaborations are superficial and lack substantial depth. This limits students' opportunities for practical experience, further exacerbating the disconnect between sports education and market demand.

2.3 Theoretical Framework for Aligning Market Demand with Sports Education

Market demand theory emphasizes that the education system should be closely aligned with market demand to ensure that the talents cultivated meet the actual needs of the industry. In the sports industry, with the diversification of industries, market demand has undergone significant changes. The talent cultivated by traditional sports majors is gradually unable to meet the industry's needs. Especially in the modern sports industry, emerging fields such as sports media, esports, and health industries are developing rapidly, and these industries require talents with highly interdisciplinary skills.

In this context, Industry-Education Integration becomes a critical solution. By strengthening between education collaboration and businesses/industries, market demand can be timely fed back into teaching content and methods, making the cultivation model more aligned with industry needs. Sports education should emphasize cross-disciplinary knowledge integration, enhancing students' adaptability and innovation in the diversified sports industry, and improving their market competitiveness.

2.4 Application of Industry-Education Integration in Sports Major Education

The application of Industry-Education

Integration in sports major education primarily focuses on curriculum content and teaching methods reform. Traditional sports education is mostly limited to theoretical learning and basic training, and students' practical skills and innovative abilities are underdeveloped. To address this challenge, schools should adjust the curriculum according to market demand, adding courses related to sports industries, such as event management, sports media communication, and exercise rehabilitation, to enhance students' professional skills and practical abilities.

Secondly, school-enterprise cooperation should evolve from "cooperative internships" to "deep cooperation." Schools and businesses can engage in long-term cooperation in curriculum design, practical teaching, and talent cultivation, ensuring that educational content is aligned with industry needs and providing more practical opportunities for students. The participation of enterprises not only provides students with a real working environment but also allows them to understand the industry's development trends and practical operations through real-world cases.

Finally, sports education should focus on enhancing students' comprehensive qualities, particularly their innovation abilities and crossdisciplinary knowledge integration. The modern sports industry requires talents not only with technical skills and knowledge but also with creative thinking, teamwork, and cross-disciplinary integration abilities. Therefore, sports institutions should enhance the setting of innovation courses and improve students' overall abilities to meet the development needs of the sports industry.

2.5 Challenges and Development Directions of Industry-Education Integration

Although the model of Industry-Education Integration has great potential in sports education, there are still several challenges in practice. First, the cooperation mechanism between sports universities and companies is not yet perfect. Although some universities have established partnerships with companies, most of these collaborations remain superficial and lack deep, systematic cooperation. Secondly, the depth and breadth of enterprise participation in education are insufficient, and enterprises have not fully played a role in course design, practical training, and innovation education.

To overcome these challenges, the further development of Industry-Education Integration should focus on the following aspects: first, deepen the depth and breadth of schoolenterprise cooperation, promote long-term cooperation between both sides in course design, teacher training, and research projects; second. improve students' internship opportunities and practical skills through enterprise participation; third, strengthen the cross-disciplinary integration of sports education to cultivate talents with innovative abilities and problem-solving skills. Through these reforms, Industry-Education Integration will drive the innovation of sports major talent cultivation models and provide stronger support for the development of the sports industry.

2.6 Conclusion

The application of Industry-Education Integration in sports maior education students' practical effectively enhances abilities and innovative thinking, improving their employability. Through school-enterprise cooperation, curriculum reform, and crossdisciplinary integration, sports education can better meet market needs and provide a continuous stream of high-quality talents for the development of the sports industry. Although there are still challenges, further deepening cooperation and promoting educational innovation will make Industry-Education Integration an important direction for sports education reform, contributing to the high-quality development of the sports industry.

3. Research Methods and Data Collection

This study employs a combination of qualitative and quantitative research methods to comprehensively analyze the application of industry-education integration in the talent cultivation model for sports majors and its alignment with market demand. The research methods include literature review, questionnaire survey, in-depth interviews, and statistical data analysis.

The literature review is the starting point of this study, which involves a systematic analysis of domestic and international literature on industry-education integration, sports major education, and market demand. The literature review helps to identify the current status of industry-education integration in sports education and summarize existing gaps and limitations in the research, providing theoretical support and a research framework for the study.

The questionnaire survey is designed to collect first-hand data from students of sports universities, sports industry enterprises, and employers. The questionnaire covers students' learning experiences, practical abilities, job preparation, and the demand and expectations of enterprises for sports professionals. The advantage of the questionnaire survey is its ability to cover a wide range of samples and obtain systematic quantitative data.

Building on the questionnaire survey, in-depth interviews are conducted with several teachers from sports universities, industry experts, and business representatives to explore in greater detail the current situation of sports major talent cultivation, specific practices of industry-education integration, and changes in industry demand for talents. In-depth interviews provide more detailed qualitative data than questionnaires, helping researchers better understand the underlying causes and issues.

Statistical data analysis is primarily used to data collected analyze the from the questionnaire survey. SPSS and other statistical tools are employed to organize and statistically analyze the collected data, using descriptive statistics, correlation analysis, regression analysis, etc., to explore the alignment between sports education and market demand and its influencing factors.

The main data sources for this study are the questionnaire survey and in-depth interviews. The specific data collection process is as follows:

The questionnaire is designed to cover students' learning experiences, practical abilities, job preparation, and the demand and expectations of enterprises for graduates. The questionnaire is distributed anonymously to ensure that respondents can reflect their views and experiences honestly. The research team distributed 2,000 questionnaires to sports universities and sports industry enterprises across the country, with 1,700 valid responses collected, resulting in a response rate of 85%. This data provides a quantitative foundation



for further analysis.

For the interviews, the research selected 10 teachers from sports universities, 5 business representatives from the sports industry, and 5 industry experts. The interviews are semi-structured, with each lasting about 45 minutes. The interview content focuses on the setup and issues of practical training in sports education, the gap between enterprise demand for sports graduates and actual capabilities, the current situation of school-enterprise cooperation, and challenges in cooperation.

For data organization and analysis, the collected questionnaire data is processed using Excel and SPSS for initial organization and statistical analysis. After processing, frequency analysis and cross-analysis methods are employed to further analyze students' employment status, enterprises' demand for talents, and the implementation effects of industry-education integration. Additionally, the interview data is coded and analyzed to extract key issues and main viewpoints, which are then compared with the questionnaire data to provide supplementary evidence.

The sample for this study is widely representative. The questionnaire survey covers sports students from various regions and types of universities, as well as sports industry enterprises from different fields. To ensure data validity, the research team rigorously screened the returned questionnaires, eliminating invalid responses and systematically organizing and analyzing the interview records, ensuring the authenticity and reliability of the data.

In data analysis, this study primarily uses descriptive statistics, correlation analysis, and regression analysis methods. First, descriptive statistics are applied to analyze the basic information from the questionnaire, such as students' practical abilities. employment Descriptive preparedness, etc. statistics provide data support for further in-depth analysis, helping researchers understand the basic characteristics and overall trends of respondents.

Correlation analysis explores the relationships between students' practical abilities, employment skills, and enterprise demand. Regression analysis further examines the causal relationships between curriculum design, practical training, and students' employment abilities. For the interview data analysis, the research team codes and analyzes the interview records to extract key themes related to sports education, market demand, and industryeducation integration, and compares these findings with the questionnaire data to form comprehensive results.

Although this study collects a large amount of data through questionnaires and interviews, there are still some limitations. First, the questionnaire survey is primarily focused on major cities and key universities, which may not fully reflect the situation in other regions and smaller institutions. Second, the sample size for interviews is relatively limited. While covering teachers, business representatives, and industry experts, the sample size may not fully represent the entire sports industry. Therefore, future research could expand the sample range to include more institutions and regions to further validate the findings of this study.

4. Empirical Research and Analysis

This study aims to explore the practical application of industry-education integration in the talent cultivation model for sports majors and analyze the alignment between sports universities' training models and market demand. Through questionnaire surveys, indepth interviews, and data analysis, the study reveals the main gaps between current sports education and industry needs, and proposes optimization strategies to provide theoretical support and practical guidance for industryeducation integration.

4.1 Data Collection and Sample Information

The study collected a large amount of data through questionnaire surveys and in-depth interviews with students from sports universities and sports industry enterprises across the country. A total of 2,000 questionnaires were distributed, with 1,700 valid responses, resulting in an 85% response rate. The questionnaire participants included students, teachers, industry experts, and sports industry employers from different regions.

The questionnaires primarily covered students' learning experiences, practical abilities, job preparation, and the alignment of curriculum with industry needs. The in-depth interviews further explored the current status and challenges of school-enterprise cooperation, changes in enterprise demand for graduates, and the implementation of industry-education integration.

4.2 Practical Abilities and Job Preparedness of Sports University Students

According to the questionnaire data, 70% of the students reported having rich theoretical knowledge, but only 45% believed they possessed strong practical skills. Specifically, students generally lacked hands-on experience in areas such as sports skills, event planning, and sports media. The survey data showed that 65% of the students felt they lacked practical experience connected to the industry, and only 40% had participated in internships related to the sports industry. In terms of job preparedness, over 60% of students felt their still needed improvement, employability especially in areas like professional competence, teamwork, and innovation.

In interviews, many teachers stated that the current curriculum structure focused too much on theoretical knowledge, with insufficient attention given to practical training. Among the 10 teachers interviewed, only 4 believed the current curriculum adequately met industry needs, while the remaining 6 teachers noted a significant gap, particularly in emerging fields such as sports media and esports.

4.3 Enterprise Demand and Expectations for Sports Major Graduates

Survey data showed that sports industry enterprises focused on recruiting graduates in fields such as event planning, sports management, sports rehabilitation, and sports media. Feedback from 50 sports companies indicated that 90% of enterprises believed the current sports education system provided solid theoretical knowledge but lacked practical skills. Enterprises emphasized the importance of practical experience, teamwork, innovation, and problem-solving skills in graduates. Approximately 75% of companies indicated they hoped graduates could quickly adapt to job roles and possess strong practical abilities and industry adaptability.

Through in-depth interviews, industry representatives further emphasized that the current sports education model did not adequately address the demand for talents in emerging fields such as digital sports and esports. Enterprises preferred recruiting multidisciplinary talents with innovative abilities, but the current curriculum failed to cultivate these qualities in students.

4.4 Current Status and Challenges of School-Enterprise Cooperation

In terms of school-enterprise cooperation, survey results showed that although 80% of sports universities had some level of cooperation with enterprises, most collaborations were limited to internships and recruitment, lacking deep cooperation in course design, teaching content, and teaching methods. Both sports university teachers and enterprise representatives indicated that school-enterprise cooperation faced several challenges:

Single Cooperation Model: The cooperation was often limited to internships and recruitment, with little involvement in course design and teaching processes. Both sides were somewhat passive in the collaboration, failing to leverage their advantages.

Low Enterprise Participation: Many enterprises were more interested in recruiting graduates than in participating in curriculum design and teaching processes.

Insufficient Internship Opportunities: The lack of communication between schools and enterprises led to limited opportunities for students to gain practical experience, making it difficult for graduates to adapt to job positions. Through interviews, it was further revealed that school-enterprise cooperation varied significantly across regions and universities. Some universities had initiated innovative cooperation models, such as event planning courses designed in collaboration with wellknown sports companies or sports media courses with industry partners, but these models were still in their early stages and not widely adopted.

4.5 Implementation Effects of Industry-Education Integration and Optimization Paths

Based on data analysis, the implementation of industry-education integration in sports major education has led to several positive outcomes: Through school-enterprise cooperation and enhanced practical training, students' practical abilities have significantly improved. The data shows that students who participated in internships and cooperation projects

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demonstrated a 20% higher level of practical skills compared to those who did not. These students had a stronger competitive edge in the job market.

Students who engaged in school-enterprise cooperation showed greater job adaptability and a better understanding of industry practices, resulting in better job performance.

Some universities have updated their curriculum by incorporating courses related to emerging industries, such as esports and sports media, making the curriculum more practical and aligned with market needs.

However, challenges still exist in the implementation of industry-education integration. The depth and breadth of schoolenterprise cooperation remain limited, especially in course design and practical training. Some sports universities still lack adequate enterprise involvement in these areas. To optimize industry-education integration, this study proposes the following paths:

Deepening School-Enterprise Cooperation

Sports universities should establish long-term, stable partnerships with enterprises, extending cooperation beyond internships and recruitment to include course design, teaching content, and methods.

Schools should increase the availability of internships and practical training opportunities, providing more chances for students to engage with the industry and enhance their employability.

Schools should adapt their curriculum in response to market changes, adding courses related to new industries and fostering students' interdisciplinary integration and innovative thinking abilities.

4.6 Conclusion

Through empirical research and data analysis. this study reveals the major gaps between current sports education and market demand, highlighting the critical role of industryeducation integration in optimizing the talent cultivation model. Industry-education integration not only enhances students' practical abilities and employability but also supports the high-quality development of the sports industry. Although challenges remain, school-enterprise deepening cooperation, strengthening practical training, and innovating curriculum design will provide strong support for the reform and innovation of sports

education.

5. Results and Discussion

In the empirical analysis of this study, we explored the practical application of industryeducation integration in the talent cultivation model for sports majors and analyzed the alignment between sports universities' training models and market demand. Based on the data analysis results, this section further discusses the impact of industry-education integration on sports education and proposes strategies to improve the alignment of sports education with market needs.

5.1 Current Situation and Problems in the Alignment of Sports Education with Market Demand

The results of this study indicate that while sports education in China excels in providing theoretical knowledge, there is still a significant gap in aligning it with market demand, particularly in students' practical abilities and job preparedness.

According to the questionnaire results, while 70% of students reported having rich theoretical knowledge, only 45% believed they possessed strong practical skills. Additionally, 65% of students felt they lacked practical experience connected to the industry, and only 40% had participated in internships related to the sports industry. This shows that while the education system provides extensive theoretical knowledge, there is a lack of sufficient practical training and hands-on experience, leaving students unprepared for the job market.

Enterprise demand for graduates further confirms this issue. Approximately 90% of companies stated that while sports graduates have solid theoretical foundations, they lack practical experience, especially in fields such as event planning and sports management. graduates' Companies value practical experience, teamwork, innovation, and problem-solving skills. Data shows that 75% of enterprises hope graduates can quickly adapt to job roles and possess strong practical abilities and industry adaptability.

These findings indicate that the current sports education system overemphasizes theoretical teaching and neglects practical training, creating a significant gap between students' work abilities and market demand.

5.2 Current Status and Limitations of School-Enterprise Cooperation

Through the analysis of survey and interview data, this study further explored the current status and limitations of school-enterprise cooperation in industry-education integration. The survey data shows that while 80% of sports universities have established some form of cooperation with enterprises, most of this cooperation is limited to internships and recruitment, lacking deep collaboration in curriculum design, teaching content, and teaching methods.

Interview results further reveal that enterprise participation in sports education is limited, with many companies more focused on hiring graduates rather than engaging in course design and teaching processes. Enterprises provide internships and recruitment opportunities but are less involved in the educational content. This results in schoolenterprise cooperation being superficial and short-term, failing to fully leverage the potential of such collaborations.

5.3 Positive Impacts of Industry-Education Integration on Sports Education

Despite the challenges in current schoolenterprise cooperation, the study also shows that industry-education integration has significantly improved students' practical abilities and employability. By strengthening school-enterprise cooperation and practical training, students' hands-on experience has been enhanced, particularly in emerging fields such as sports event planning, sports rehabilitation, and sports media.

The data shows that students who participated in school-enterprise cooperation and internship projects demonstrated 20% higher practical skills compared to those who did not. These students were more competitive in the job market, with companies rating them more highly. Furthermore, the employability of students has also improved. Those who participated in internships performed significantly better in their jobs, particularly in problem-solving and innovation.

Interviews with enterprise representatives indicate that industry-education integration has helped them better understand the gap between students' abilities and industry demands and has encouraged them to participate more actively in talent cultivation.

5.4 Recommendations for Optimizing the Industry-Education Integration Model

Based on the results of this study, industryeducation integration plays a critical role in enhancing students' practical abilities and employability. However, the current schoolenterprise cooperation model still has room for improvement, especially in areas such as curriculum design, practical opportunities, and enterprise participation. This study proposes the following optimization strategies: Deepen School-Enterprise Cooperation Schoolenterprise cooperation should evolve from simple internships to comprehensive collaboration, particularly in curriculum design, practical training, and teacher training. Sports universities should actively involve enterprises in course design and implementation and integrate enterprise feedback into the teaching content.

Schools should increase practical training opportunities, providing more chances for students to engage with the industry and improve their employability.

Optimize Curriculum Content and Teaching Methods.

Based on market demand changes, schools should timely update and adjust curriculum content, particularly in emerging industries such as esports and sports media, and adopt more flexible teaching methods such as casebased learning and project-driven approaches to improve students' innovative thinking and problem-solving abilities.

Strengthen Communication and Collaboration between Enterprises and Universities.

Enterprises and universities should establish long-term cooperative relationships and engage in regular communication and evaluation to ensure that cooperation models continuously innovate and improve.

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