

Exploration of Approaches and Methods for Implementing Comprehensive Physical Education Courses in Chinese Universities in the New Era: A Case Study of Universities in Southwest China

Dong Youzhen^{1,a}, Yang Baiyi^{1,b}, Chang Youjiang^{1,c}, Liu Jiang^{1,d,*}

¹School of Physical Education, Southwest Jiaotong University, Chengdu, China

^a39311926@qq.com, ^by474098223@163.com, ^c573075885@qq.com, ^d13980538538@qq.com

**Corresponding author*

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Abstract: In order to thoroughly implement General Secretary General Secretary Xi's important statements on education and sports delivered at the 20th National Congress and the National Education Conference, Southwest Jiaotong University has fully implemented comprehensive physical education courses as part of its deepened sports reform. By utilizing field research, interviews, and mathematical statistics, this study explores the paths and methods for fully implementing physical education courses in the new era of school sports. The research concludes that the integration of in-class and extracurricular activities, the fusion of MOOCs and flipped classrooms, and the combination of information technology with traditional teaching methods constitute effective strategies for implementing comprehensive physical education courses in the new era. First, the integration of physical education classes with the "Sports and Health Supermarket," which includes both physical exercise and sports competitions, is an effective approach to integrating in-class and extracurricular physical education in the new era. This model ensures that learning, practice, and competition are interwoven, providing students with comprehensive opportunities for physical exercise and competition at all levels, thereby fostering the overall development of sports education. Second, the close integration of MOOCs and flipped classrooms addresses the current shortage of physical education teachers in universities. By making sports course content available as MOOCs, students can engage in self-directed learning outside of class, while classroom time is devoted to interactive discussions and practical activities, thereby enhancing both teaching efficiency and quality, and providing more opportunities for students to participate in sports activities. Finally, by implementing these strategies and methods for comprehensive physical education courses, students' physical fitness is significantly improved. The school not only focuses on in-class physical exercises but also actively organizes various sports

competitions and activities, encouraging students to participate and thereby enhancing their overall physical and comprehensive fitness.

1. Introduction

Under the guidance of General Secretary Xi's Thought on Socialism with Chinese Characteristics for a New Era, it is essential to fully implement the principles from the 19th and 20th National Congresses of the Communist Party of China, adhere to the socialist direction in running schools, and fulfill the fundamental task of fostering virtue through education. This includes adhering to educational laws, systematically advancing educational evaluation reform, and promoting the development of quality education. The whole Party and society should establish a scientific outlook on educational development, talent cultivation, and the selection and use of personnel, and work towards building an educational system that serves lifelong learning for all. This effort aims to cultivate a new generation capable of shouldering the great task of national rejuvenation, developing them into socialist builders and successors with comprehensive qualities in morality, intelligence, physical fitness, aesthetics, and labor.^[2]

The 2018 National Education Conference, the "Strong Sports Nation" initiative, and the "Healthy China 2030" Development Outline have all emphasized the need to prioritize health, promote school sports reform, ensure comprehensive physical education courses, and continuously advance the development of school sports, thereby reinforcing the vital role of sports in education. ^[1]On October 15, 2020, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Comprehensively Strengthening and Improving School Sports Work in the New Era" and the "Overall Plan for Deepening Educational Evaluation Reform in the New Era." [8] These documents reiterated the importance of comprehensive physical education courses and proposed the establishment of a sound sports competition and talent training system, an education supervision and evaluation system, and the inclusion of physical education as a key indicator in university evaluations, particularly in the assessment of undergraduate teaching and "Double First-Class" construction outcomes. The report of the 20th National Congress of the Communist Party of China proposed: "Vigorously promote nationwide fitness activities, strengthen youth sports work, promote the comprehensive development of mass sports and competitive sports, and accelerate the construction of a strong sports nation." In learning and implementing the spirit of the 20th National Congress, it is crucial to deeply understand the rich connotations of building a strong sports nation, strengthen university sports evaluation, and explore the introduction of physical education courses at all stages of higher education, placing school sports work in a more prominent position. Ensuring comprehensive physical education courses is a concrete measure to implement the directives of the Central Committee, the State Council, and the Ministry of Education, and serves as a powerful tool for aligning with the "Strong Sports Nation" initiative. This approach must adhere to a people-centered philosophy, promoting the balanced, sustainable, and high-quality development of sports while embracing the Olympic spirit in both concept and practice. By taking

peace and development as a significant mission, China contributes to the global sports movement, taking concrete actions to help build a community with a shared future for mankind.^[3]

2. Clarifying the Concept of School Sports in the New Era

The "Opinions on Comprehensively Strengthening and Improving School Sports Work in the New Era" and the "Overall Plan for Deepening Educational Evaluation Reform in the New Era" highlight the significance of strengthening and improving school sports work in the new era. The concept of the new era is closely related to the development of school sports. Firstly, this is a critical period for achieving decisive victories in building a moderately prosperous society and in poverty alleviation. The concept of the new era reflects comprehensive economic and social development and imposes the requirement of cultivating talents with comprehensive qualities in morality, intelligence, physical fitness, aesthetics, and labor. Secondly, the report of the 18th National Congress clearly stated that by 2020, education should be fundamentally modernized, marking a new stage in the comprehensive modernization of education and emphasizing the balanced development of the five areas of education. School sports in this new era are an essential component of the educational evaluation system and a crucial pathway for cultivating talents with comprehensive qualities.^[9] Lastly, the main goal is that by 2022, significant progress should be made in school aesthetic education, with comprehensive and sufficient courses, notable outcomes in education reform, optimized resource allocation, a gradually improved evaluation system, and significantly enhanced effectiveness in talent cultivation. By 2035, a high-quality, diversified, and modern school aesthetic education system with Chinese characteristics should be fundamentally established.^[10]

3. Principles for Comprehensive Physical Education Courses

The requirements of the National Education Conference and the documents issued by the Central Committee of the Communist Party of China and the State Council emphasize that school sports are an integral part of cultivating socialist builders and successors with comprehensive qualities. They are matters of national and ethnic importance. The educational philosophy of prioritizing health, ensuring comprehensive physical education courses, and helping students enjoy sports, enhance their physical fitness, develop sound personalities, and temper their willpower should guide the implementation of comprehensive physical education courses. The following principles should guide the implementation of these courses:^[7]

3.1 Comprehensive Planning and Coverage

Comprehensive physical education courses should be a top priority in each school's strategic planning. This involves not only ensuring the full implementation of physical education courses but also guaranteeing the quality of teaching. Education should follow the laws of education and sports, ensuring that students develop comprehensively through learning, practicing, and competing.

3.2 Ensuring Adequate Resources

Adequate resources, including a strong faculty, should be ensured by strengthening teacher training, fully utilizing existing resources and modern information technology, and developing diverse teaching content to guarantee the quality and effectiveness of physical education.

3.3 Evaluation

An annual report system for school sports work should be implemented, along with a physical education course evaluation system, to scientifically assess students' physical education levels and course outcomes, thus continuously improving the quality of physical education.

3.4 Purposefulness

The primary goal is to ensure physical health, which requires establishing and maintaining student physical health records, strengthening school health work, and improving the rate at which students meet physical fitness standards. At the same time, cultivating socialist builders and successors with comprehensive qualities in morality, intelligence, physical fitness, aesthetics, and labor is also one of the objectives of physical education.

In conclusion, ensuring comprehensive physical education courses is a crucial measure to implement the Party's education policies and serve the cause of building a moderately prosperous society and the great rejuvenation of the Chinese nation. By steadfastly advancing school sports reform and development, we will contribute to building a healthy China and realizing the Chinese Dream of national rejuvenation.

4. Exploration of Approaches and Methods for Comprehensive Physical Education Courses in the New Era

In November 2018, to implement General Secretary Xi's important statements on education and sports delivered at the National Education Conference, Southwest Jiaotong University issued the "Implementation Measures for Comprehensive Physical Education Courses," ensuring the full implementation of physical education courses throughout the university.^[5]

4.1 Infrastructure Development for Comprehensive Physical Education Courses at Southwest Jiaotong University

Building on earlier sports reforms, Southwest Jiaotong University further explored the full implementation of physical education courses. In 2017, the university issued the "Southwest Jiaotong University Sports Construction Implementation Plan," which laid the groundwork for sports reform across the university. The most distinctive features of this plan were the construction of 15 "MOOCs" and the establishment of the nation's first "Sports and Health Supermarket." This foundation set the stage for the implementation of comprehensive physical education courses.

As of March 2024, 75 teachers at Southwest Jiaotong University had developed 15 "Sports Online Open Courses," which are available on the China University MOOC platform, placing the

university at the forefront of MOOC development nationwide. These courses have been well received by students. For example, in March 2021, the course "Olympic Referees Teach You How to Appreciate Competitions" attracted 14,894 students, "Leading the World in Chinese Table Tennis" attracted 14,618 students, and "Olympic Referees Teach You the Rules" attracted 13,355 students. Additionally, the MOOC content is broad and diverse, allowing students to choose teachers and projects based on their interests and schedules. Examples of these courses include "University Soccer," "The Wisdom Behind Net Sports—Table Tennis and Badminton," "Tai Chi Kung Fu," "Campus Fitness Dance in Light and Shadow," "College Students' Water Survival Skills Training," "Lifetime Health Exercise," "College Volleyball and the Spirit of the Women's Volleyball Team," "Exercise Magic Cube for Body Shaping," "Smart Tutorial for Physical Fitness Standards," "Smart Basketball for College Students," and "Outdoor Climbing Techniques and Practical Knots."

These online courses not only enhance the quality of physical education but also increase the university's visibility and influence. The "Sports and Health Supermarket" operates during two time slots each day: 8:00–9:30 AM and 4:30–7:30 PM. Utilizing an information management platform, it encourages and supervises university students to engage in physical exercise. The "Sports and Health Supermarket" offers 15 different activities (see Table 1), including timed exercises, GPS-tracked campus runs, and various individual and team sports such as basketball, volleyball, swimming, aerobics, and Tai Chi. Additionally, students are categorized into beginner and intermediate groups based on their skill levels, allowing for more targeted instruction by teachers and increasing student participation enthusiasm.^[3]

Students can book courses through a mobile application on a first-come, first-served basis and then proceed to the designated sports facilities for their chosen activities. During their workouts, teachers from the Sports Department, along with teaching assistants comprising sports specialists and hired instructors, organize and guide the sessions. Notably, the extracurricular "Sports and Health Supermarket" activities (including campus runs, Tai Chi, and twelve skill-based projects) have enabled over 14,000 first and second-year undergraduate students to participate in three sports activities each week, totaling 42,000 participations per week (see Table 1).

Currently, there is a severe shortage of physical education teachers in universities, particularly at Southwest Jiaotong University (as shown in Table 2). The university offers 798 teaching classes for first and second-year undergraduates. The existing physical education class schedules are from 9:50–11:20 AM and 2:00–3:30 PM, Monday through Friday, with all facilities fully booked and operating at maximum capacity. If physical education classes were to be extended to third and fourth-year undergraduates and graduate students, there would be insufficient facilities and equipment to meet the demand. The lack of sufficient teaching staff, unrecognized workloads, difficulties in maintaining regular physical education class times, and inadequate sports facilities and equipment pose significant challenges to the full implementation of comprehensive physical education courses.^[6]

Table 1: Statistics of Southwest Jiaotong University Undergraduate Students (First and Second Years) Sports and Health Supermarket in 2024

	Content	Statistics	Content	Statistics	Content	Statistics
Item	Exercise Timing		GPS-Tracked Campus Run		Others	
	Exercise Distance	4558258km	Total Participants	1497964	Total Sessions	648
	Number of Participants	2203517	Total Distance	4312889km	Total Participants	195215
	Average Exercise Duration	118min	Average Distance Per Participant	70.3km	Participants Completing Two Check-ins	149388
				2.88km	Total Exercise Duration	7268066 min
			Average Distance Per Single Session		Average Minutes Per Participant	48.7min

Table 2: Comparison of the number of teachers and students at other universities in Sichuan and our university

Name of the university	First-year students	Number of physical education teachers (person) teacher-student ratio
Southwest Jiaotong University	7000	431:163
Sichuan University	8700	1051:83
Southwestern University of Finance and Economics	3800	301:127
University of Electronic Science and Technology of China	5000	481:104

The development and application of 15 MOOCs, combined with the high integration of flipped classrooms, effectively address the scarcity of physical education teachers and teaching resources. By offering pre-class MOOC-based learning, coupled with practical flipped classroom activities, the university achieves the dual goals of teaching basic health knowledge and fundamental and specialized sports skills. This blended online-offline teaching model maximizes the utilization and allocation of teaching resources. Furthermore, the establishment of the "Sports and Health Supermarket" plays a crucial role in the integration of in-class and extracurricular physical education reform, resolving issues related to maintaining regular physical education class schedules and meeting the demands for sports facilities and equipment.

4.2 Comprehensive Physical Education Course Implementation Plan

4.2.1 Overall Plan

In alignment with General Secretary General Secretary Xi's important directives at the National Education Conference, the university adopts a comprehensive approach to cultivating socialist builders and successors with well-rounded qualities in morality, intelligence, physical fitness, aesthetics, and labor. Emphasizing a health-first educational philosophy, the plan ensures the full and comprehensive implementation of physical education courses across all undergraduate and graduate levels. The integration of learning, practice, and competition is designed to instill sportsmanship, teamwork, resilience, and an indomitable spirit in students.

4.2.2 Specific Plan Components

By the third year of undergraduate studies, the university ensures full coverage of physical education courses, offering elective physical education courses tailored to specific student needs. Approximately 25% of students requiring special attention—such as those not meeting the "College Students' Physical Fitness Standards" and those with health issues—are required to take 2-credit compulsory physical education courses. In the fourth year and for graduate students, elective physical education courses are available. Building on the comprehensive course coverage, the university also aims to enhance students' physical fitness levels by strictly enforcing the "College Students' Physical Fitness Standards" tests for third and fourth-year undergraduates.

4.2.3 Pathways and Methods for Comprehensive Physical Education Courses in the New Era

Southwest Jiaotong University's sports administration collaborates closely with the university's leadership, with all faculty members in the Sports Department working collectively towards development. The focus is on establishing a solid foundation for sports, optimizing the top-level design of sports programs, and actively promoting in-depth reforms in sports education and teaching. The university strives to achieve comprehensive coverage of sports teaching and physical exercise, cultivating a unique sports culture characteristic of Southwest Jiaotong University, and significantly improving the physical health levels of both faculty and students. The implementation of comprehensive physical education courses is driven by three key guarantees and facilitated by three integrative approaches.

4.2.3.1 Three Guarantees

Top-Level Design: In accordance with the important speeches by General Secretary General Secretary Xi at the National Education Conference and the State Council's "Healthy China 2030" Planning Outline, as well as the university's Party Congress and talent cultivation meetings, Southwest Jiaotong University has formulated the "Implementation Measures for Sports Work Construction" and the "Implementation Measures for Comprehensive Physical Education Courses." These measures ensure robust top-level design and strategic planning for sports education.

Sports Culture Environment: The university has developed high-level sports teams with unique characteristics and established the nation's first "Sports and Health Supermarket." It has also

hosted numerous high-quality national and provincial sports events, including football, marathons, basketball, table tennis, and volleyball competitions. Notably, the university hosted the CUBA Basketball League, achieving a record attendance of 7,148 spectators for a single grassroots match. Additionally, the university has intensified the organization of campus sports competitions, fostering a distinctive sports culture environment.

Sports Information Platform: Adopting an "Internet+Sports Management" model, the university has developed a mobile application to support undergraduate teaching, sports training, group exercises, and the "Sports and Health Supermarket." The sports information platform standardizes teaching order and enhances the management of sports teaching, training, and competitions, thereby ensuring effective implementation of comprehensive physical education courses.

4.2.3.2 Three Integrative Approaches

Integration of In-class and Extracurricular Activities:

The "Sports and Health Supermarket" achieves the integration of in-class and extracurricular physical education by determining each student's sports grades based on four aspects: participation in the "Sports and Health Supermarket," specialized sports, physical education class attendance, and physical fitness tests. This approach promotes a comprehensive teaching reform, encouraging students to "leave the internet, leave the dormitory, and enter the playground."^[4]

Fusion of MOOCs and Flipped Classrooms:

The development of 15 comprehensive physical education MOOCs, combined with flipped classroom methodologies, represents an innovative teaching model. This approach shifts traditional classroom time to interactive discussions and practical activities, guided by online resources, thereby enhancing teaching efficiency and quality. The blended teaching model not only addresses the shortage of physical education teachers but also enriches the content and diversity of physical education courses.

Combination of Information Technology and Traditional Teaching:

By leveraging information technology through online MOOCs and the "Sports and Health Supermarket," the university effectively integrates in-class and extracurricular sports teaching. This combination diversifies teaching methods and enhances the efficiency and effectiveness of traditional teaching models.

Table 3: Comparison of the average physical fitness from 2016 to 2018 and 2021 to 2023

	Male				Female			
	50m Run	Standing Long Jump	1000m Run	Pull-ups	50m Run	Standing Long Jump	1000m Run	Pull-ups
2016-2018	7.36	230.7	241.6	5.9	9.01	172.8	234.3	34.8
2019-2021	7.21	233.9	237.1	6.5	8.88	174.7	242.7	39.3
Difference	-0.15	3.2	-4.5	0.6	-0.13	1.9	-8.4	4.5

Over the past three years of school sports reform and the implementation of comprehensive physical education courses, Southwest Jiaotong University has observed significant improvements

in students' physical fitness levels (see Tables 3 and 4). Media outlets such as People's Daily, Global Times, Sina, Xinhua, and CCTV5 have extensively reported on the university's sports programs. Additionally, the Ministry of Education's official website has lauded Southwest Jiaotong University for its commitment to sports education, highlighting its efforts to enhance students' sports interests, improve physical fitness, strengthen sports characteristics, and promote comprehensive healthy development.

Table 4: Percentage of people with physical fitness, 2016-2018 and 2021-2023

2016-2018						2019-2021			
		Fail	Pass	Good	Excellent	Fail	Pass	Good	Excellent
Male	50m Run	2.71	54.65	17.22	25.42	0.34	58.98	16.62	24.06
	Standing Long Jump	11.41	67.07	15.81	5.71	9.53	69.24	16.01	5.21
	1000m Run	15.20	69.36	12.03	3.41	11.21	72.58	12.96	3.15
	Pull-ups	71.45	19.02	3.51	6.02	68.74	20.91	3.94	6.41
Female	50m Run	1.66	13.71	2.29	82.34	1.38	15.18	2.70	80.74
	Standing Long Jump	7.92	20.08	12.09	59.91	8.16	20.84	9.79	61.21
	1000m Run	6.64	17.65	6.19	69.52	5.73	20.08	7.61	66.58
	Pull-ups	10.02	9.53	3.84	76.61	6.88	12.79	7.97	72.36

To promote the development of school physical education in the new era, greater emphasis should be placed on the role of physical education and health courses in "embodied moral education." Efforts should focus on changing the outdated teaching methods in physical education and health classes, allowing students to experience more complex and diverse sports scenarios. In these scenarios, students can be guided to recognize the importance of sports ethics, such as adhering to rules, fair competition, teamwork, and mutual respect. This will help enhance their sense of integrity, responsibility, public service, and dedication, ultimately better fulfilling the fundamental task of "establishing morality and cultivating people." See Figure 1 for details. ^[8]

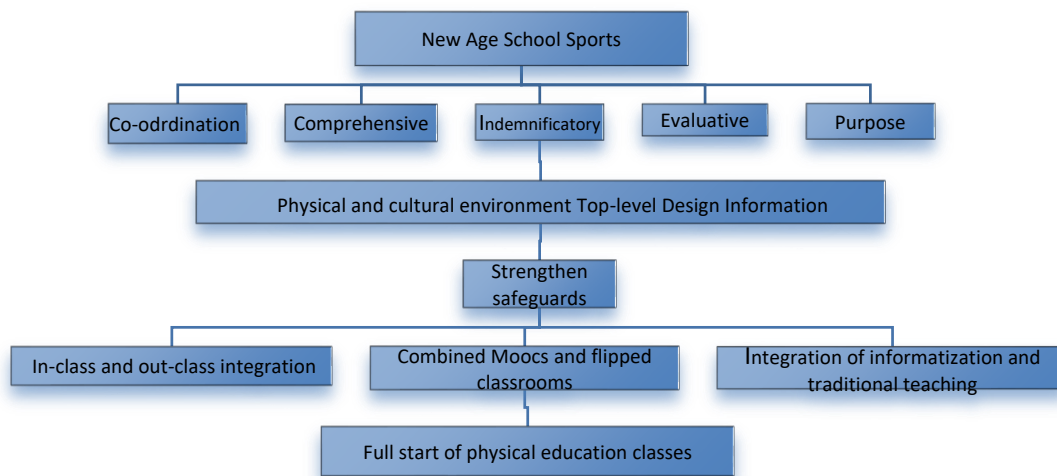


Figure 1: Pathways and Methods for Comprehensive Physical Education Courses in the New Era

5. Conclusion

Guided by General Secretary General Secretary Xi's important directives on education and sports delivered at the National Education Conference, Southwest Jiaotong University has continuously explored and deepened sports reform by fully implementing comprehensive physical education courses. Through field research, interviews, and statistical analysis, this study has delved into the pathways and methods for implementing comprehensive physical education courses in the new era of school sports. The key findings of this research are as follows:

Firstly, the integration of in-class and extracurricular activities, the fusion of MOOCs and flipped classrooms, and the combination of information technology with traditional teaching methods have been identified as effective strategies for implementing comprehensive physical education courses in the new era. ^[5]The incorporation of the "Sports and Health Supermarket" model ensures that learning, practice, and competition are seamlessly integrated, providing students with extensive opportunities for physical exercise and competition. This not only enriches the content of physical education courses but also enhances student engagement and interest, thereby ensuring comprehensive physical and mental well-being.

Secondly, the high integration of MOOCs and flipped classrooms effectively addresses the shortage of physical education teachers in universities. By utilizing modern information technology to convert part of the physical education course content into MOOCs, students engage in self-directed learning outside of class. Classroom time is then dedicated to interactive discussions and practical activities, thereby maximizing teaching efficiency and quality. This approach also provides students with more opportunities to participate in physical activities.

Finally, the implementation of comprehensive physical education courses in the new era has significantly improved students' physical fitness and overall quality. By comprehensively advancing

sports education reform, the university has not only enhanced the setup and content richness of physical education courses but also actively organized various sports competitions and activities. This has increased student participation, improved their sports literacy, and fostered comprehensive personal development. These efforts contribute to cultivating healthy habits, teamwork, and a spirit of cooperation, laying a solid foundation for students' future social and professional lives.

In conclusion, ensuring comprehensive physical education courses is a critical measure to implement the Party's educational policies, serve the cause of building a moderately prosperous society, and achieve the great rejuvenation of the Chinese nation. By steadfastly advancing school sports reform and development, Southwest Jiaotong University contributes to building a healthy China and realizing the Chinese Dream of national rejuvenation.

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