

ZHANG, Lei, HUANG, Jin, WANG, Shaojie and JIANG, Bo. The Red Sports Culture is Integrated Into The Public Sports Curriculum of Colleges And Universities Evaluation System Construction And Path Analysis. *Quality in Sport*. 2024;27:55592. eISSN 2450-3118. <https://dx.doi.org/10.12775/QS.2024.27.55592>  
<https://apcz.umk.pl/QS/article/view/55592>

The journal has been 20 points in the Ministry of Higher Education and Science of Poland parametric evaluation. Annex to the announcement of the Minister of Higher Education and Science of 05.01.2024. No. 32553.

Has a Journal's Unique Identifier: 201398. Scientific disciplines assigned: Economics and finance (Field of social sciences); Management and Quality Sciences (Field of social sciences).

Punkty Ministerialne z 2019 - aktualny rok 20 punktów. Załącznik do komunikatu Ministra Szkolnictwa Wyższego i Nauki z dnia 05.01.2024 r. Lp. 32553. Posiada Unikatowy Identyfikator Czasopisma: 201398.

Przypisane dyscypliny naukowe: Ekonomia i finanse (Dziedzina nauk społecznych); Nauki o zarządzaniu i jakości (Dziedzina nauk społecznych).

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The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 11.10.2024. Revised: 19.10.2024. Accepted: 20.10.2024. Published: 21.10.2024.

## **The Red Sports Culture is Integrated Into The Public Sports Curriculum of Colleges And Universities Evaluation System Construction And Path Analysis**

**Lei Zhang<sup>1</sup>, Jin Huang<sup>2</sup>, Shaojie Wang<sup>3</sup>, Bo Jiang<sup>1,4\*</sup>**

**Lei Zhang**

**1.School Physical Education Development Institute, Southwest University, Chongqing, China**

**1033227319@qq.com ORCID:0000-0002-2907-7074**

**Jin Huang**

**2.Academy of Music, Southwest University, Chongqing, China**

**394182665@qq.com ORCID:0009-0003-6921-0874**

**Shaojie Wang**

**3.School of Physical Education, Southwest University, Chongqing, China**

**17623073462@163.com ORCID: 0009-0005-5083-581X**

**Bo Jiang**

**1.School Physical Education Development Institute, Southwest University, Chongqing, China**

**4.College of Teacher Education, Southwest University, Chongqing, China**

**jbo@swu.edu.cn ORCID: 0000-0001-6896-0233**

**\*Corresponding Author**

*Fund Project:(1)Supported by“General Project of Chongqing Social Science Planning Project” (Project No : 2022NDYB193 ) ; ( 2 ) Supported by“the Fundamental Research Funds for the Central Universities Ability Enhancement project” ( Project No : SWU2209231 ) ; ( 3 ) Supported by“Chongqing Graduate Education Teaching Reform Research Project” (Project No: YJG233028 ) ; (4) Supported by“Scientific Research Project of Chongqing Education and Teaching Reform” (Project No: 213069 ) ; (5) Chongqing Social Science Planning and Cultivation Project in 2021, Chongqing Social Science Federation (Project No: 2021PY63 )*

**Abstract:** The red sports culture, which was born in the revolutionary era, is an excellent traditional culture of the Chinese nation. Its inheritance and development reflects the theoretical consciousness of the coordinated development of "cultural power" and "sports power". The integration of red sports culture into the public physical education curriculum of colleges and universities is the in-depth analysis of the concept of cultivating college students' "cultural self-confidence" and the goal path of forging ahead "sports power". In this study, the literature method, Delphi method, expert interview method, analytic hierarchy process and other research methods are used to construct the evaluation system of integrating red sports culture into public physical education courses in colleges and universities, including 4 first-level indicators, 13 second-level indicators and 42 third-level indicators, and determine the weights of indicators at all levels. Finally, objective analysis and case enumerations are made according to the weights assigned to indicators at all levels. And put forward the path of integrating red sports culture into college public physical education curriculum construction.

**Key words:** red sports culture; Public physical education course; Index system

## **1 The origin of integrating red sports culture into the index system of university public physical education course**

### **1.1 Response under the top-level design of "cultural confidence" : Red sports culture has become a vivid expression carrier**

The general secretary has always insisted on "cultural self-confidence", stressing that "we must fully tap and make use of rich and colorful historical, cultural and red cultural resources to strengthen cultural construction", and pointed out that "we must implement the national strategy of fitness for all, constantly improve the people's health level" and "build China into a sports power"<sup>[1]</sup>. The red sports culture, born in the revolutionary era, is one of the socialist cultures with Chinese characteristics, and its unique political and cultural education functions are an effective form to realize college students' "forming the soul of sports". Exploring the inheritance and development value of red sports culture is not only an important measure to carry out the Party's cultural policy and lead the people to create a better life, but also a necessary choice to deepen the function of cultural cultivation and cultivate all-round talents for the country and society<sup>[2]</sup>.

### **1.2 Physical education curriculum under the field of ideological and political reality: red sports culture infiltrates the public physical education curriculum system in colleges and universities**

On May 28, 2020, the Ministry of Education issued the Guiding Outline of Ideological and Political Construction of higher education Curriculum, which pointed out that sports courses should establish the educational concept of health first, pay attention to patriotism and traditional culture education, cultivate students' tenacious struggle and self-belief, and stimulate students' sense of responsibility to improve the physical quality of the whole nation<sup>[3]</sup>. One of the practical ways of public physical education curriculum ideological and political practice is to lead the innovation of public physical education curriculum ideological and political practice in colleges and universities with the help of cultural penetration, that is, to carry forward the excellent traditional sports culture of the Chinese nation and create a rich sports environment and cultural

atmosphere. Therefore, the integration of red sports culture into the public sports curriculum of colleges and universities is helpful to cultivate the spiritual quality of college students who are willing to bear hardships and make progress, help guide them to establish the lofty concept of "cultural self-confidence and self-improvement", and then promote colleges and universities to carry out the fundamental task of cultivating morality and talents<sup>[4]</sup>.

### 1.3 The absence of relevant evaluation system under the current research: the evaluation index system came into being

Through literature collection, the author finds that by the end of 2023, 113 academic dissertations have been counted with the keywords "red culture" and "sports", of which 55 belong to sports disciplines, of which more than half are about "sports tourism", and 5 are about "higher education" disciplines. The research content is concentrated on the status quo research, strategy research and case study, and there is no related research on the construction of evaluation index system. Therefore, in order to inherit the red sports culture well, we should not only give play to the strong cultural influence of the famous old revolutionary base areas, but also break the regional restrictions and open up the development path of red sports culture which is suitable for the public sports curriculum in colleges and universities. Through quantitative research, the paper provides a theoretical reference for red sports culture to enter the construction path of public physical education curriculum in colleges and universities.

## 2 Construction process and result of integrating red sports culture into university public physical education curriculum index system

### 2.1 Preliminary development of evaluation indicators

The first-level indicators of the index system construction in this study refer to the curriculum preparation principle proposed by Ralph Taylor, that is, the Taylor principle, and design four first-level indicators of curriculum objectives, curriculum content, curriculum organization and curriculum evaluation<sup>[5]</sup>; 16 secondary indicators were compiled by referring to the content of the basic curriculum objectives in the National Physical Education Teaching Guidelines for General Colleges and Universities issued by the Ministry of Education in 2002 and combining the research results of related scholars<sup>[6]</sup>; By consulting relevant literature and books, listening to the suggestions of experts in related fields and public physical education teachers in first-tier colleges and universities, 53 third-level indicators were drawn up, and finally formed the original version of the evaluation index system of red sports culture into public physical education courses in colleges and universities. The indicators at all levels are shown in Table 1:

**Table 1 The initial evaluation index system of red sports culture integrated into college public physical education course**

First-level index	Secondary index	Tertiary indicators
Curriculum objectives	Physical fitness	Spread revolutionary red sports ideas to improve students' motivation for physical exercise
		Participate in various red sports projects to improve students' sports ability
		Integrate the red sports story to enrich the national feelings
	Mental health	Integrate "interesting" red sports to make students enjoy the fun of sports
Sports participation	Sports participation	Create a red sports field to help students overcome the psychological barriers caused by sports
		Encourage all students to participate in sports
	Sports skills	Appreciate red sports related film and television works to improve students' sports appreciation ability
		Learn sports knowledge goals

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		Master sports skills and method objectives Enhance security awareness and prevention capabilities Integrate the spirit of "simple" to do sports, and promote the virtue of diligence and frugality
	Social adaptation	Integrate into the red sports anti-" championship doctrine "value orientation, and cultivate students' correct view of winning and losing  Integrate into the Red sports team project to cultivate students' sense of cooperation
Course content	Content selection	The content is adapted to the original course It conforms to the law of students' physical and mental development Meet students' interest in learning Consider objective conditions such as faculty and material basis Organize content based on the syllabus
	Content arrangement	The progression of the depth of the content The content of the arrangement is reflected in the classroom, extracurricular sports competition and extracurricular sports exercise
	Content display	The presentation process should be dynamically adjusted based on student feedback Use a combination of text, images and videos for presentation
Curriculum Implementation	Implementation principles	Conduct a feasibility study before implementing the course Give full play to students' subjective initiative in curriculum implementation Use case teaching method to integrate red sports events, red sports rules and regulations
	Ways of implementation	Use scenario teaching method to integrate red sports events, red sports material facilities and other content Integrate spirit and culture into class introduction, technical points explanation and after-class summary
	Implementation mode	Integrate the system culture into the extracurricular competition organization and extracurricular physical exercise Integrate material culture into classroom sports equipment and material rewards for winning teams
Course Evaluation	Evaluation objectives	Improve students' physical fitness and sports skills The improvement of students' comprehensive literacy The improvement of teachers' educational accomplishment School curriculum teaching reform, cultural inheritance research and innovation Students' understanding of red sports culture Students' physical fitness and special technical scores Students' course attendance and classroom performance
	Evaluation content	Students' attitude to participating in extracurricular exercises and competitions Teachers' ability to participate in curriculum development The enthusiasm of teachers to participate in curriculum development The school promulgates policies to promote curriculum development Cooperate with history experts to promote the construction of teachers The school conducts relevant activities regularly
	Evaluation criteria	Random question and answer in class, in-class examination, attendance record Physical fitness, special skill scores, theory test scores Teachers are evaluated by means of school evaluation and teacher mutual evaluation Evaluation is carried out by means of school mutual evaluation and evaluation by relevant departments
	Evaluation subject	Teachers Students School
	Ways to evaluate	Oral questions and quizzes Final physical fitness, special skills, theory examination Teachers evaluate students through an evaluation form Schools evaluate teachers according to the evaluation form

## 2.2 Screening and determination of expert indicators

Three rounds of expert consultation were conducted on the above evaluation indicators by using the Expert Evaluation Form for the Construction of the Evaluation index System of the Integration of Red Sports

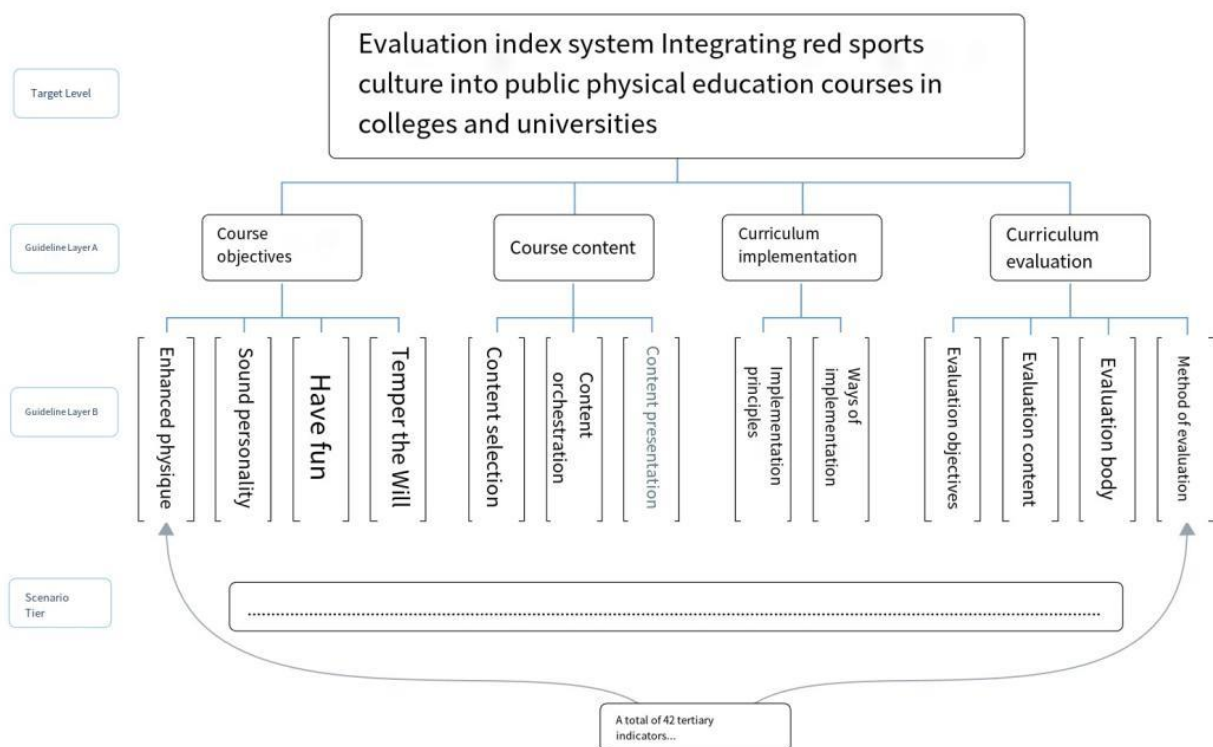
Culture into the Public Physical Education Curriculum of Colleges and Universities, and corresponding modifications were made according to the feedback of the experts in each round, and the final version of the evaluation index system of the integration of red sports culture into the public physical education curriculum of colleges and universities was obtained (see Table 2).

### 2.3 Determine the weights of indicators at all levels

In this paper, the analytic hierarchy process is adopted to determine the weight of the evaluation index of red sports culture integrated into the public physical education curriculum of colleges and universities based on the evaluation analysis of 15 experts on different indicators.

#### Step 1: Construct the hierarchical structure model

Based on the evaluation indicators of integrating red sports culture into public physical education courses in colleges and universities obtained from the first three rounds of questionnaires, a hierarchical structure model was established, as shown in the figure below:



#### Step 2: Construct the judgment matrix.

Use the scale method of the table below for evaluation:

Standard	Basic Standards
1	Indicating that the relative importance of the two influencing factors is 1, which means that both factors are equally critical.
3	Indicating that the relative importance of the two influencing factors is 3, which means that one factor is slightly more important than the other.
5	To express the reflection of the critical importance of two influencing factors with a weight of 5, which means that one factor is significantly more important than the other.
7	To express the reflection of the critical importance of two influencing factors with a weight of 7, which means that one factor is absolutely more important than the other.

9	The expression indicates that the relative importance of two influencing factors is (1, 1/3, 1/5, 1/7, 1/9); that is, one factor is less important (equally/slightly/significantly/absolutely/extremely) than the other.
Reciprocal	Indicating that the relative importance of two influencing factors is 3, which means that one factor is less important (slightly/moderately/significantly/absolutely/extremely) compared to the other factor.

### Step 3: Consistency test.

After the establishment of the judgment matrix, because there are many indicators in the evaluation index system of integrated curriculum and it is affected by the subjective factors of experts, the consistency test (CR) should be completed for the matrix. When  $CR < 0.1$ , it indicates that the consistency of the judgment matrix is more ideal, and the weight distribution of indicators at each level is more reasonable<sup>[7]</sup>. The consistency ratio CR is calculated by the following formula:

$$CI = \frac{\lambda_{max} - n}{(n-1)}$$

$$CR = \frac{CI}{RI} = \frac{\lambda_{max} - n}{(n-1)RI} < 0.1$$

According to the above formula, the index weight of red sports culture integrated into public physical education courses in colleges and universities is calculated as shown in Table 2:

First-level index	Sort	Secondary indicators	Sort	Tertiary indicators	Sort
Course objectives (0.2503)	4	Body building (0.3683)	1	Learning sports knowledge goal (0.3927)	1
				Mastery of motor skills and method goals (0.3566)	2
				Enhancing safety awareness and prevention ability Objective (0.2507)	3
		Perfect personality (0.2221)	3	Improve students' cognitive level and learning efficiency (0.2364)	3
				Improve students' teamwork ability and sense of collective honor (0.3136)	1
				Cultivate students' sense of fair competition (0.1954)	4
	Have fun (0.1201)	B4 Temper the will (0.2896)	2	Promote the virtue of diligence and frugality (0.2547)	2
			4	Incorporate "fun" red sports items to make students enjoy sports fun (0.5864)	1
				Appreciation of red sports related films and television works to improve sports appreciation (0.4136)	2
			2	Cultivate persistence in students (0.4461)	2
				Cultivate students' courage to overcome difficulties (0.5539)	1
Course content (0.2498)	3	Content selection (0.3091)	2	Incorporate red sports equipment, photos, books, videos and other materials (0.3569)	1
				Integrate red sports, red sports, red sports organizations, etc. (0.3375)	2
				Integrate into red sports stories, red sports discourse slogans (0.3056)	3
	Content arrangement (0.3614)	1	Organizing content based on the syllabus (0.34)	1	
			Progression of content depth (0.3376)	2	
			The content should be arranged in the classroom, extracurricular exercise and competition (0.3224)	3	

		Content presentation (0.3295)	3	The presentation process should be dynamically adjusted based on student feedback (0.4661)	2
				Display with a combination of text, images and video (0.5339)	1
A3 Course implementation (0.2578)	1	Implementation Principles (0.3109)	2	Conduct a feasibility study before curriculum implementation (0.5088)	1
				Give full play to students' subjective initiative in the curriculum (0.4912)	2
		Implementation approach (0.6891)	1	Use of teaching methods based on language delivery (0.1893)	3
				Using intuitive methods (0.1931)	5
				Physical exercise based methods (0.217)	1
				Using situational and competition-based methods (0.1893)	3
				An inquiry-based approach (0.2114)	2
A4 course evaluation (0.2421)	2	Evaluation objectives (0.2307)	3	Improvement of students' physical fitness and sports skills (0.2975)	1
				The improvement of students' comprehensive literacy (0.2244)	3
				Improvement of teachers' educational literacy (0.2102)	4
				Improvement of school curriculum teaching (0.268)	2
		Evaluation content (0.3368)	1	Students' interest in red sports culture (0.1897)	2
				Students' mastery of red sports culture (0.1639)	4
				Students' physical fitness and special technical scores (0.1649)	3
				Teachers' enthusiasm to participate in curriculum development (0.1377)	5
				Teachers' ability to participate in curriculum development (0.2102)	1
				Schools develop rules and regulations to ensure integrated curriculum implementation (0.1337)	6
		Evaluation main (0.1741)	4	Teacher (0.3349)	2
				Students (0.3401)	1
				School (0.325)	3
		Evaluator (0.2584)	2	Evaluate by verbal gestures (0.3477)	1
				Evaluation by physical fitness, motor skill test (0.3144)	3
				Evaluation by self-evaluation form, mutual evaluation form and other scales (0.3379)	2

### 3 Weight analysis and case listing of red sports culture integrated into public physical education curriculum in universities

#### 3.1 Weight analysis of first-level indicators

The weights of the four first-level indicators in the evaluation index system are as follows: A3 course implementation 0.2578 > A4 course objective 0.2503 > A2 course content 0.2498 > A1 course evaluation 0.2421. First of all, curriculum implementation is the core part of classroom teaching, and its implementation effect will directly affect the teaching quality of the whole classroom. The three parts of curriculum objective, curriculum content and curriculum evaluation all serve for the smooth implementation of the final curriculum. Therefore, this is consistent with the existing conclusions; Secondly, as the primary part and action guide of the teaching process, the establishment and expectation of the curriculum objective will always influence the whole teaching process; Thirdly, experts believe that the curriculum content is the sum of all kinds of content shown to students by teachers using certain teaching methods in the course implementation process. Whether the displayed content conforms to the law of students' physical and mental development, whether it is feasible and whether it can produce the expected effect needs to be covered; Finally, experts all believe that the evaluation content, subject and method will have an impact on the teaching quality of the course.

#### 3.2 Weight analysis of secondary indicators

Among the secondary indexes of "course goal", the weight of physical fitness enhancement is 0.3683, which is the highest among the four secondary indexes, reflecting the most essential fitness function of sports; The weight of the index of tempering the will is 0.2896, indicating that experts pay more attention to the

teaching channel of integrating the red sports culture into the public physical education curriculum to achieve the cultivation of students' perseverance, perseverance and other will qualities; The weight of healthy personality index is 0.2221, indicating that experts believe that public physical education courses integrated with red culture should be able to improve students' comprehensive literacy; The weight of enjoyment index is 0.1201, indicating that experts believe that enjoyment of fun should be ranked last among the four goals of integrating red sports culture into sports curriculum goals, but at the same time, we should make full use of the "interesting" characteristics of red sports in order to achieve good classroom results.

Among the secondary indexes of "course content", the weights of content selection, content arrangement and content display are 0.3091, 0.3614 and 0.3295 respectively. First of all, as the first part of the course content, the quality of the selected content directly affects the effect of integrating red sports culture into the public physical education curriculum, so the content selection should be made from three aspects: material, system and spiritual culture. Secondly, experts regard the content arrangement as the most important item, which reflects that the course content should not only be well selected, but also well arranged. Therefore, for the red sports culture existing in various forms, it should follow the principle of gradual and orderly arrangement. Finally, as the last link of the course content, the content display should be monitored and adjusted in real time to make the system of course content work in an orderly manner.

In the secondary index of "curriculum implementation", the weight of implementation principle is 0.3109. Experts believe that the whole process of curriculum implementation should abide by a set of principles to standardize the whole process of curriculum implementation; The weight of implementation approach is 0.6891. From the perspective of the weight ratio, experts attach more importance to the specific approach of integrating red sports culture into the public physical education curriculum of colleges and universities, so they retain the five third-level indicators under the second-level indicator, which is also consistent with the lack of relevant case studies as the support of this study.

In the secondary index of "curriculum evaluation", the weight of the evaluation target index is 0.2307, indicating that the experts have a high expectation on the goal and benefit of integrating red sports culture into public physical education curriculum; The weight of evaluation content is 0.3368, indicating that experts are very inclined to study the specific evaluation content of integrated curriculum, and truly reflect the performance of students, teachers and schools in integrated curriculum through concrete evaluation content. The weight of the evaluation body is 0.1741, indicating that the weight of this index is the last because the content is more concise than the other three, and the expert ranks its weight to the last. The weight of evaluation method is 0.2584, indicating that experts believe that the choice of evaluation method will affect the operation of the entire evaluation system. Therefore, the weight of this index is significantly higher than that of the evaluation subject and the evaluation target.

### **3.3 Examples of three-level indicator description of high weight value are listed**

Among the three subordinate indicators of "enhancing physical fitness", the index with the highest weight value is "learning sports knowledge goal"<sup>[8]</sup>. The "Nine One" expansion Games held on an unprecedented scale in Yan 'an in 1942 took place in the most difficult days of the Anti-Japanese War<sup>[9]</sup>.

Among the three subordinate indexes of "Content arrangement", the index with the highest weight is "the gradual deepening of content arrangement". In order to follow the arrangement principle, the material form culture can be integrated into the beginning of the course, and then extended to the spiritual level of cultural connotation. For example, in the early stage of the course, historical photos, books and newspapers



of the Red sports period will be displayed<sup>[10]</sup>; In the middle of the course, let students participate in the production of sports equipment such as simple table tennis racket and compiled tennis balls during the Red Sports period; In the later stage of the course, students are allowed to participate in sports under the background of the Red sports period, such as "carrying the wounded", "Qiaoer stretcher team" and "heroes blasting the bunker", so that students can be immersed in the scene and cultivate team consciousness and patriotic enthusiasm<sup>[11]</sup>.

Among the three subordinate indicators of "Implementation way", the index with the highest weight is "the use of physical exercise-based methods". Therefore, students can practice and master the skills of red sports, develop their physical quality and achieve the purpose of physical exercise through the training methods based on body exercises such as the whole and decomposition exercise method and the cycle exercise method.

Among the three subordinate indexes of "evaluation content", the index with the highest weight is "teachers' ability to participate in curriculum development". To achieve this goal, we can evaluate the research results of teachers' participation in the integration of red sports culture into curriculum development, the participation and number of awards in open class competitions carried out with red sports culture integration curriculum, and the degree of students' approval of the curriculum.

#### **4 Integration of red sports culture into the construction of public physical education courses in colleges and universities**

##### **4.1 Anchor the course target direction and create the course scenario to achieve the target**

The course goal is both the starting point and the destination of the teaching process. It is an accurate anchor for students to produce the expected results after in-depth learning of the course. According to the difficulty of the goal, it can be summarized into four processes of "improving cognition -- affirming stance - - practicing operation -- behavior consciousness", that is, from understanding and learning the goal of red sports culture, gradually improving to firmly supporting the goal of red sports culture value, and then developing to the goal of guiding practice with the help of red sports culture value, and finally completing the closed loop of "moral cultivation" education. Therefore, to coordinate the difficulty of the curriculum goal, rationally plan the expected route to achieve the goal, and actively create the space and resources to complete the goal will be a powerful measure for the first step of curriculum construction.

First of all, we should design reasonable objectives. If the goal is too simple, students are likely to lack a sense of achievement in the process of completion and become a mere formality. For example, when teachers guide students to complete the classic red sports project "unicycle support", they should set the unicycle load or plan the traveling distance and route according to the physical fitness of students, and add red sports history interesting answer levels in the process of traveling to enhance students' sense of participation in activities<sup>[12]</sup>.

Secondly, it is required to present the target task in the order from easy to difficult. Tasks of different difficulty require different ways to achieve them. Simple goals can be accomplished by students' self-study or cooperative exploration among students, while more difficult goals need to be achieved by teachers' organization and guidance, and corresponding teaching methods and means. For example, when teachers integrate the content of the Red Army in the "Long March period" in the classroom to adapt to local conditions under the harsh and harsh environment, local materials and insist on participating in physical exercise, they can first use multimedia equipment to disseminate videos, pictures, texts and other materials

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of the period, so that students can be immersed in the scene and produce emotional value identification. Experience the Red Army's obsession and enthusiasm for sports during the difficult revolutionary period. Then combined with the actual material conditions to introduce the red sports material culture, such as homemade table tennis racket, simple basketball stand, so that students personally participate in the red sports. Finally, through the communication between the students and the teacher's summary speech, the students generated a passion for exploring the history of red sports culture in the Long March period, and completed the promotion of the traditional virtue of diligence and frugality.

Finally, schools and teachers need to actively create the conditions to achieve the goal. To achieve the goal, schools and teachers need to give enough time, space and resources to explore the red sports culture curriculum. The first is to ensure enough class hours. To carry forward and inherit the red sports culture in colleges and universities needs a long education cycle to support. Therefore, appropriately increasing the proportion of red sports culture in the curriculum can effectively improve the richness of public physical education curriculum and establish a solid time foundation. The second is to expand the curriculum space. While keeping the main position of teaching classroom well, we should lead students out of the conventional teaching ground and out of the campus, and provide students with appropriate off-campus teaching fields, such as the surrounding Red Revolution Museum and Red Revolution heritage site. The third is to provide resources and policy support for the curriculum. This requires the school to make a good top-level design. It can set up a working group of red sports culture into the classroom under the unified leadership of the management, establish a joint laboratory of red culture and sports, coordinate and formulate institutional documents such as curriculum plans, implementation opinions and safeguard measures suitable for the actual situation of the school, and build a target system that links up and down and coordinates with internal and external cooperation.

#### **4.2 Divide the curriculum content categories and improve the high-quality curriculum content system**

Red sports culture is extensive and profound. The red sports thoughts and discourses of early revolutionaries, the red sports deeds of outstanding figures, and classic red sports events can all be presented in public sports courses after compilation. In order to make the integrated curriculum content more systematic and structured, it is urgently necessary to make scientific planning for the division and display of the curriculum content.

First of all, the teacher's understanding and mastery of red sports culture determines the quality of the integrated curriculum content. Therefore, teachers need to continuously deepen their understanding and cognition of red sports culture, take the initiative to understand the historical origin of red sports culture, actively participate in red sports culture activities organized by schools or social organizations, enrich and master the knowledge of red sports culture, shape the recognition of red sports value of physical education teachers, and select high-quality curriculum content to improve students' comprehensive literacy around the curriculum objectives. At the same time, the school should also complete the integrated curriculum content construction system from "unidirectional resource co-construction" to "multi-directional resource sharing", realize the collaboration and co-governance of teaching personnel in different majors, different disciplines and different positions in the school, strengthen the compatibility of the integration of sports disciplines and other disciplines, break the barrier of curriculum construction "behind closed doors", and promote the continuous updating of curriculum content resources. Through inter-school exchanges, teaching discussions, results sharing and other forms, optimize the new path of integrated curriculum construction.

Secondly, in the process of choosing the red sports culture to integrate into the public physical education curriculum, we should also consider whether the content is in line with the existing teaching situation. The two main points are as follows: First, the selected content should be consistent with the course objectives, contents and forms of the existing teaching syllabus, so that the integrated red sports culture can be related

to the knowledge structure and teaching methods of public physical education curriculum, ensure the effective connection of the two, and finally achieve deep integration. In terms of content selection, it is required to ensure the technical level of physical education curriculum while realizing the dissemination of red sports culture; Secondly, the selected content should conform to the psychological development law and cognitive level of students. Choosing the red sports culture that students can accept to integrate can improve the interaction efficiency between teachers and students in the integration course, and help students realize the two-way flow of "master self" and "guest self".

Finally, the 12-word policy of "real-time feedback, timely record and timely correction" should be implemented at all times in the whole process of selecting, arranging and displaying the content of integrated courses. "Real-time feedback" means that in the process of displaying integrated content, teachers need to capture students' expression, emotion, language and other information in real time, and interpret students' emotional attitude towards the integrated course. At the same time, teachers can also use oral questions and answers, fill in questionnaires and other forms to collect feedback information in the first time. "Record on time" means to record the feedback information from students and find out the crux that affects the quality of the content of the integrated course, so as to revise the syllabus and teaching objectives of the integrated course in the future. "Timely correction" refers to making necessary corrections to the problems that appeared in the previous integration course. Through continuous feedback, recording and correction, a set of high-quality content system of integration course is finally built.

#### **4.3 Plan the course implementation process and build the red sports culture communication field**

As a key part of the curriculum, curriculum implementation is the practical landing of the establishment of curriculum objectives and the display of curriculum content. Therefore, it is necessary to build a curriculum implementation field for disseminating red sports culture on the basis of following established principles and combining with specific teaching methods and models of physical education courses.

On the one hand, in the process of integration, we should not rush to achieve, let alone "one size fits all", we should follow the following basic principles: First, the feasibility analysis of the implementation process of the curriculum. In the early stage of the implementation of the curriculum, mainly physical education teachers, Party history research professionals, physical education curriculum theory research professionals to set up a curriculum teaching and research team, provide rich knowledge and think tanks, excavate the red sports cultural elements that can be integrated into the physical education curriculum, and innovate the preparation of curriculum general materials. By constantly updating the teaching concept and curriculum concept of the teaching and research team, the curriculum teaching plan is designed after clarifying the value experience of red sports culture to the development of students. Before the formal implementation, it is necessary to plan in advance the integration content, integration method and the handling of emergencies, and make emergency plans to effectively ensure the high-quality implementation of the curriculum implementation plan. Second, give full play to the students' subjective initiative. In the course implementation process, the motivation of students to participate in the course should be stimulated, the active participation of students in cognition and emotion should be increased, and the sense of class ownership should be enhanced. Students' learning of red sports culture should not only rely on the cooperation of schools and teachers, but also cultivate students' learning autonomy and drive through the teacher's teaching method. For example, before the teaching and implementation of the basketball program, students are required to consult the historical deeds or cases related to the basketball program during the Red Sports period before class. For example, the name of the "combat basketball team" organized by He Long, the 120th Division commander of the Eighth Route Army, is used to stimulate students' fighting spirit in the game, and

representatives are sent to explain and interpret the course. Finally, through the teacher's summary, to stimulate students to understand the red sports culture spirit quality enthusiasm<sup>[13]</sup>.

On the other hand, teachers should actively promote the integration of various teaching methods and red sports culture, and complete the implementation of integrated curriculum to improve the quality and efficiency. The use of five common teaching methods in PE classroom to integrate red PE culture into the classroom is an effective transformation of the "infiltration" education method in PE classroom, which is a unique subject, and it can effectively break the discipline barrier of red PE culture into public PE classroom. The specific approach can be referred to the following suggestions: First, with the help of teaching methods based on language transmission of information, such as explanation, question and answer, discussion, etc., to complete the teaching of the history of red sports, the source and rules of red sports, and the perception of participating in the red sports integration course; Secondly, with the help of teaching methods based on intuitive feeling, such as demonstration method and demonstration method, teachers are encouraged to complete the purpose of using red sports equipment and participating ways of red sports events; Third, with the help of teaching methods based on physical exercises, such as complete exercise, circular exercise, etc., to consolidate students' mastery of red sports events; Fourthly, with the help of teaching methods based on scene and competition activities, such as scene teaching method, sports competition method, etc., to mobilize students' interest in learning red sports culture and strengthen competition consciousness; Fifth, with the help of the teaching method based on exploration activities, give full play to students' subjective initiative and enhance students' independent learning of red sports culture.

#### **4.4 Improve the curriculum evaluation system and establish a real-time and efficient supervision and evaluation mechanism**

Curriculum evaluation is an efficient way to test the effect of curriculum implementation. Establishing a sound and efficient evaluation system can standardize the evaluation procedures at all levels of the curriculum, use scientific methods to guide the evaluation process, generate professional evaluation reports, and provide comprehensive feedback<sup>[14]</sup>. With reference to the above index system, the evaluation path can be constructed from the four directions of evaluation objective, evaluation content, evaluation subject and evaluation method.

The first is to evaluate the objectives, build the objectives that can reflect the curriculum content and achieve the concept of spreading "cultural confidence", help teachers grasp the transformation procedure logic of the formulation and implementation of the curriculum objectives, and gradually achieve the goal of the expected effect, accumulate construction experience and strengthen the execution ability. For students, taking the improvement of students' physical fitness and sports skills as the primary goal is a powerful interpretation of the essential attributes of physical education "fitness function". At the same time, students can cultivate their patriotism, unity, cooperation and enterprising spirit, rule consciousness and virtue of diligence and frugality in participating in red sports culture into public physical education courses<sup>[15-16]</sup>. For teachers, integrating red sports culture into public physical education curriculum can cultivate teachers' ability to develop curriculum resources and broaden teachers' horizons of teaching methods and teaching contents;

The second is the evaluation content, which mainly focuses on students' interest in and mastery of red sports culture, basic physical quality and sports skills, teachers' enthusiasm and ability for curriculum

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development, and the guarantee provided by the school for red sports culture to enter the physical education curriculum. Among them, at the student level, the evaluation content includes two aspects: the timely evaluation of students' classroom performance and the comparative analysis and evaluation of various quality indicators before and after participating in the course; At the teacher level, with the help of course competition evaluation, quality course display and other evaluation content, give play to the "leader" effect, and urge all staff to implement the policy of "teaching and research"; At the school level, the evaluation content is mainly set for the problem of whether to solve the current realistic demands and action crux, including the ability level of the top-level professional system construction team and the level of school organizations at all levels to respond to and implement policies.

The third is the evaluation subject, which should follow the principle of diversification and take the form of student self-evaluation and mutual evaluation, teacher self-evaluation and mutual evaluation, school supervision and summary evaluation, so as to improve the comprehensiveness of curriculum evaluation.

The fourth is the evaluation method. The evaluation methods commonly used in physical education courses are divided into two forms: final evaluation and process evaluation. The evaluation should be carried out by "process evaluation as the main, final evaluation as the auxiliary", "combination of learning and practice, combination of classroom test and extracurricular standard" and other ways. Specifically, it is to pay attention to observing students' daily performance and feedback, encourage and praise students with language or body movements, evaluate students' performance in the course in a social way, and on this basis, collect students' and teachers' attitudes and opinions on the whole course operation process with the help of a unified scale, and develop evaluation tools. Digital technology, artificial intelligence and other information-based evaluation means are used to break the barriers in time and space of conventional evaluation and improve the accuracy of evaluation.

## **4 Conclusions and Suggestions**

### **4.1 Conclusion**

42 three-level indicators of red sports culture into college public physical education curriculum evaluation index system, after calculating the weights of indicators at all levels, according to the weights of indicators at all levels to make an objective analysis and case enumerations, and finally put forward the red sports culture into college public physical education curriculum construction path.

### **4.2 Suggestions**

At present, the research on the integration of red sports culture and public physical education courses in colleges and universities is still in the preliminary stage, and various integration concepts, methods and principles have not yet been perfected. Therefore, the comprehensiveness and depth of the evaluation index system constructed by this research still have obvious room for improvement. In addition, this research has not involved the empirical research on this index system, and it lacks the persuasiveness reflected from the practical level. It is suggested that future studies should start from the empirical evidence, improve the index system, and build a scientific, comprehensive and operable integrated curriculum evaluation system, so as to provide a scientific basis for red sports culture to enter the construction of public physical education curriculum in colleges and universities.

## **Competing Contributions**

L.Z and B.J. led the study. All authors conceived and designed the study. L.Z , B.J, Jin Huang and S.J.W drafted the article. All authors made critical revisions to the manuscript for important intellectual content and gave final approval of the manuscript.

## **Competing interests**

The authors declare no competing interests.

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