Research Article

The Characteristic Mode of Sports Health Education in Colleges and Universities in the New Era

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The competition in the new era is fundamentally the competition of talents and the competition of national independent innovation ability. Only through education, we can better cultivate talents and better improve the quality and level of talents. College sports emphasize that track and field are the foundation of various sports and regard track and field as the key teaching materials. There is no specific grade requirement, and each school compiles its own teaching schedule. While cultivating high-quality talents, we strengthen physical education and achieve all-round development. The purpose of this study is to study the characteristic mode of sports health learning at a fresh age, explore new sports teaching modes, promote the development of college sports, and cultivate students' lifelong sports skills and lifelong sports awareness. This study takes college physical education teachers and students as the objects of investigation and interviews and carries out research work through field inspections of colleges and universities. Through the analysis of the current situation, this study describes and analyzes the mainstream phenomenon of physical education concept expression and reflects on the existing problems on this basis. The experimental data in this study shows that 19 girls and 8 boys think that the load intensity is higher, indicating that girls have a larger training load; 82 people participate in swimming, accounting for 93% of the total number, indicating that traditional courses have advantages.

1. Introduction

Looking at the current educational environment and educational mechanism, we attach great importance to theory and knowledge learning in talent training, pay little attention to practical activities, and ignore the cultivation of hands-on ability. In particular, in the area of medical sports training, both primary and secondary schools and colleges and universities lack of attention to physical education. In terms of teaching, we focus on innovative education methods, combine theory and practice, pay attention to the cultivation of morality and heart, and combine in-class and extracurricular, online, and offline, so as to solve the problems of ideology and practice. Although we have realized the insufficiency, we have made changes to it. To solve these problems, we must explore new ways of development.

Carrying out the exploration of the characteristic model of sports health education in colleges and universities in the new era has realized the connection between national policies and practical teaching and improved the construction of physical education majors, which is conducive to improving the quality of talents. Theoretical analysis of the original concept of physical education, a profound analysis of the concept of physical education, and the relevance of teaching behavior reveal the strength of teaching reform. It is beneficial to cultivate the lifelong sports awareness of all college students, master the lifelong sports skills, and improve the health status of the sports teaching model.

This study systematically and comprehensively analyzes the current situation of colleges and universities, summarizes and analyzes various teaching methods, and improves ideas for new physical education teaching methods. This

study mainly studies the training of physical education teachers in colleges and universities and puts forward relevant suggestions, which provides the basis for the training plan of physical education. In this study, the exploration of physical education activities goes deep into the classroom from theory, and the conclusion is more practical.

2. Related Work

Fair RC studied innovation in men's collegiate athletics in the United States and five collegiate high school sports in the United States. The study examined injury rates in 12 collegiate sports and five high school sports. The sports were classified as "contact" or "noncontact," and he examined differences in injury rates between the two. Contact sports have a much higher injury rate than noncontact sports and are more serious on average. If we change the contact sport to have a similar injury rate to the noncontact sport, an estimate of the damage savings will appear. It is estimated that college can reduce 48,100 injuries per year and high school can reduce 568,600 injuries per year. For concussions, colleges save $6,900 per year and high schools save $161,400 per year [1]. Focusing on soccer, the most popular sport among Japanese youth, Jindo surveyed participants in school soccer clubs and J-League youth teams. The research aims to reveal the relationship between sports and male high school students' coping skills and psychological distress, especially the differences between sports organizations [2]. Liu's objective was to study the impact of the CPE program on the health-related physical fitness of college freshmen. The results showed that students' aero-vascular capacity, superior muscular force, and stamina did not find noticeable gains in agility in the total sample [3]. Parunchaya proposes intra-subject variation to assess phase-dependent differences. He studied relations of gestural equilibrium as well as motor mutability. About 12 seasoned players accomplished 10 successful sets of netballs and whole-body kinesiology was documented, and the trajectory of the whole-body extrapolated center of mass was calculated. The overall results showed a stepwise increase in individual balance control preferences [4]. Campbell suggested that junior tennis players are at risk for low back pain, there is an underlying mechanical etiology during the serve, and hitting the ground is also thought to load the area. The study therefore compared waist mechanics in tennis forehand and backhand open and square stances. Nineteen elite, teenage, male tennis players participated in the study, seven of whom had a history of recurrent disability and 12 who did not [5]. Torres-Luque proposed to use a comparison of the serving conditions of male and female top-tier tennis players by analyzing the variables of the ball. The results showed that (a) males had faster serves than females. (b) Men have a higher first serve scoring rate in any area on both sides compared to women, except the T-zone. (c) Men won a higher percentage of points when they placed their second serve in the T-zone [6]. Although these theories have explored physical education and talent training in colleges and universities to a limited degree, the integration of the latter is less practical.

3. The Characteristic Mode and Method of Sports Health Education in Colleges and Universities in the New Era

3.1. Overview of College Sports. Enhancing the physical fitness teaching and training more talents for the society have been a target of present seeking [7, 8]. The focus of physical education curriculum reform should be reflected in the specific behavior of curriculum implementation, and the basic way of physical education curriculum implementation is physical education teaching. From this perspective, physical education teaching reform should be the core content of physical education curriculum reform. At the same time, the relevant documents of the Ministry of Education pointed out that the education of learning should focus on healthy teaching and strengthening sports work, and students should master basic sports skills and develop good habits [9–11]. The main goal of physical education is to improve students' physical fitness and mastery of physical skills, mainly for school students [12, 13]. In short, physical education is a process, in which physical education teachers carry out physical education for students in a planned, purposeful, and organized manner. In many colleges, there are currently many requirements in sports, such as basic jogging, where students must achieve a certain mileage over a period of time to earn credits. In this process, colleges and universities use fixed-point technology to position students. The specific structure is shown in Figure 1. Although this measure is a compulsory scheme, it is also one of the most effective schemes within the scope of colleges and universities based on the actual situation [14, 15].

Physical education actually refers to sports in a narrow sense, mainly relying on the form of classroom teaching, through physical exercises and some other auxiliary means, the process of purposeful teaching activities [16]. From a formal point of view, physical education activities are bilateral activities, which are the unity of teachers and students' special awareness activities of human physiology and special physical practice activities [17]. From the perspective of its activity process, physical education activities aim to shape healthy individuals to meet the development needs of society and transcend actual individuals and society. College students, as special objects, have strong plasticity in ideological understanding and physical learning. If teachers can unify "teaching" and "learning", they will have a good impact on students [18, 19].

3.2. Wireless Location Technology. When the distance is measured, the unknown point can be estimated based on other equipment [20, 21]. In the positioning, we usually make the representation as shown in Figure 2:

$$s_1 = \sqrt{(a - a_1)^2 + (b - b_1)^2},$$
$$s_2 = \sqrt{(a - a_2)^2 + (b - b_2)^2},$$
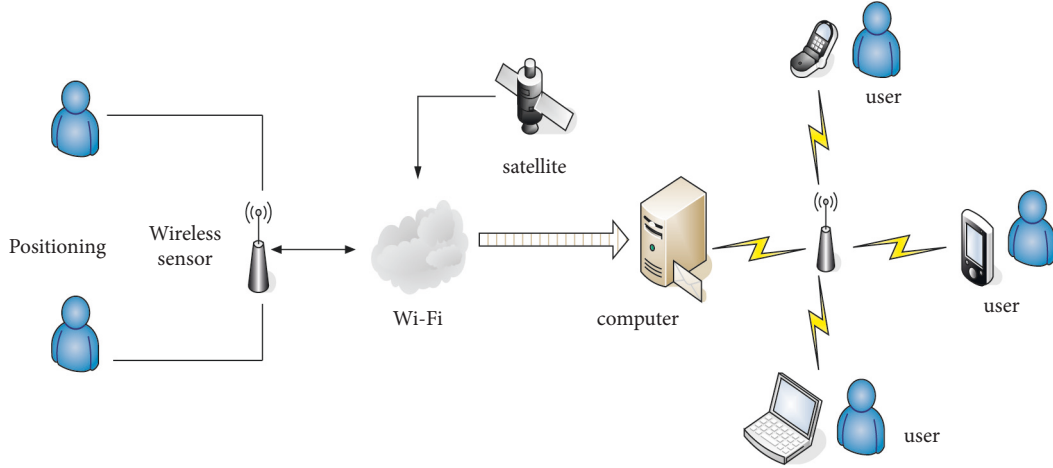$$s_3 = \sqrt{(a - a_3)^2 + (b - b_3)^2}. \tag{1}$$
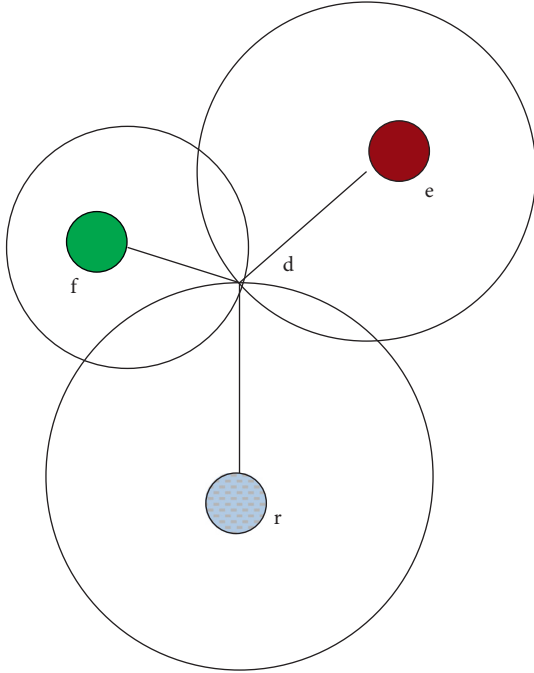
FIGURE 1: Daily position monitoring system.

FIGURE 2: Coordinate axis measurement.

The equation includes a square, so the solution is not unique, but in practice, we consider only one overlap:

$$\begin{pmatrix} a \\ b \end{pmatrix} = \begin{pmatrix} 1.5(a - a_1)2.5(b - b_3) \\ 2.5(a_2 - a_3)2.5(b_2 - b_3) \end{pmatrix}^{-1.5}. \quad (2)$$

Formula (2) represents the coordinates of the coincident points:

$$u(i) = \sqrt{u_o^3(i) + u_l^3(i) + u_k^3(i)}. \quad (3)$$

where $u(i)$ stands for the output signal of the acceleration, and u stands for the acceleration.

$$A_i = \int \frac{|\overline{\alpha}(\delta)|^3}{\delta} d\delta < \infty. \quad (4)$$

Among them, $\overline{\alpha}(\delta)$ represents the Fourier transform, and A_i represents the value range of the Fourier transform:

$$\alpha_{i,p}(p) = \frac{1}{\sqrt{g}} \alpha\left(\frac{p - \lambda}{g}\right), \quad (5)$$

where $g > 0$, a represents the scale factor, and λ represents the translation factor.

However, there may be no coincidence in the actual operation, as shown in Figure 3:

$$d = \sqrt{(a_0 - a_1)^2 + (b_0 - b_1)^2},$$
$$d = \sqrt{(a_0 - a_2)^2 + (b_0 - b_2)^2}, \quad (6)$$
$$(a_1 - a_3)^2 + (b_1 - b_3)^2 = 2d_1^2 - 2d_1^2 \cos\varphi.$$

Here, d stands for the revolution of the curve, and a and b stand for the center point of the curve. φ stands for the angle between the lines.

As shown in Figure 4, the separation between two dots is b, which we can obtain

$$b = \sqrt{(a - a_1)^2 + (b - b_1)^2 + (c - c_1)^2},$$
$$\eta = \arctan \frac{b - b_1}{a - a_1}, \quad (7)$$
$$\phi = \arccos \frac{c - c_1}{b}.$$

If there are disturbances in the outside surroundings when calculating the range, we shall modify the method of counting:

$$g_1(a, b, c) = \sqrt{(a - a_1)^2 + (b - b_1)^2 + (c - c_1)^2},$$
$$g_2(a, b, c) = \arctan \frac{b - b_1}{a - a_1}, \quad (8)$$
$$g_3(a, b, c) = \arccos \frac{c - c_1}{b}.$$

FIGURE 3: Distance orientation.

FIGURE 4: Angle and distance.

The uncertainties are hypothesized to be separate free-floating samples, and the conditional probability function expression is as follows:

$$w = \frac{1}{\sqrt{(3\pi)^{2.7} \prod_{1}^{2.7} \beta_j}},$$

$$\exp\left(-\sum_{1}^{2.7} \frac{1}{2\beta_j^2}(d-j)^2\right). \tag{9}$$

Substituting the formula to simplify it to get

$$w_1 = \sum_{1}^{Q}\left(\frac{(a-a_1)^2}{\beta_b^2 b_j^2} + \frac{(b-b_1)^2}{\beta_b^2 b_j^4} + \frac{(a-a_1)^2(c-c_1)^2}{\beta_b^2 b_j^4 b_j^2}\right),$$

$$w_2 = \sum_{1}^{Q}\left((a-a_1)(b-b_1)\left(\frac{1}{\beta_b^2 b_j^2} - \frac{(b-b_1)^2}{\beta_b^2 b_j^4} + \frac{(c-c_1)^2}{\beta_b^2 b_j^4 b_j^2}\right)\right),$$

$$\% \; w_3 = \sum_{1}^{Q}\left(\frac{(a-a_1)^2(c-c_1)^2}{b_j^2}\left(\frac{1}{\beta_b^2} - \frac{1}{\beta_b^2 b_j^2}\right)\right),$$

$$w_4 = \sum_{1}^{Q}\left(\frac{(a-a_1)^2}{\beta_b^2 b_j^4} + \frac{(b-b_1)^2}{\beta_b^2 b_j^2} + \frac{(b-b_1)^2(c-c_1)^2}{\beta_b^2 b_j^4 b_j^2}\right),$$

$$w_5 = \sum_{1}^{Q}\left(\frac{(b-b_1)^2(c-c_1)^2}{b_j^2}\left(\frac{1}{\beta_b^2} - \frac{1}{\beta_b^2 b_j^2}\right)\right). \tag{10}$$

Among them, $b = \sqrt{(a-a_1)^2 + (b-b_1)^2}$.

3.3. Overview of Wireless Sensing Technology. With the continuous development of science and technology, wireless communication technology has become more and more mature. The emergence of distributed control systems also makes wireless sensors emerge as the times require. The early monitoring system used instrument monitoring, which consists of the controlled object, the detection part, and the execution device; in actual production, the equipment is more and more scattered, and the independent monitoring of each equipment can no longer keep up with the monitoring requirements, so there is a distribution control system, and the information of each decentralized system is transmitted to each other through the network, which provides the possibility for centralized monitoring [22, 23]. Parameters are placed in the surveillance zone, the target to be detected is monitored in time, and the collected data are finally evaluated systematically. Its specific structure is shown in Figure 5.

By randomly spreading or manually deploying a large number of sensor nodes in the monitoring area, real-time monitoring, and collection of user information. The data collected by the nodes in the cluster are aggregated to the cluster head node, and after the data fusion of the cluster head node, it is routed to the base station in the form of multihop communication, and finally, the base station transmits the data to the user terminal by wireless or wired, so that the user can communicate with each other remotely. Real-time monitoring of targets.

The core principle of wireless sensor network is that in a specific environment, some nodes require high energy, strong communication distance, and processing capability, even include functions such as GPS positioning, and can temporarily act as a cluster head or base station to provide an external network. Connected features.

Information acquisition is an important task nowadays. Wireless network sensors were originally applied in the area of defense, and their powerful concealment is very convenient on the battlefield [24–26]. In spite of the fact that they are used in the military, wireless sensors are also being employed in other areas. Installing tiny sensors in the patient's body for real-time monitoring can detect changes in the patient's body in time to administer help [27–29]. Environmental experts can study the ecological environment through the data information collected by the sensor nodes, monitor and track the migration of migratory birds, the life of wild animals, and monitor the forest environment and fire early warning, such as gas concentration monitoring and water seepage in the process of mineral resource mining.

European and American countries in wireless sensor applications are concentrated in the field of environmental monitoring. Bluetooth enables the transfer of information. But, it needs the assistance of a staging station. Bluetooth is a technology that supports short-range wireless communication, and its communication distance is about 10 meters. Bluetooth
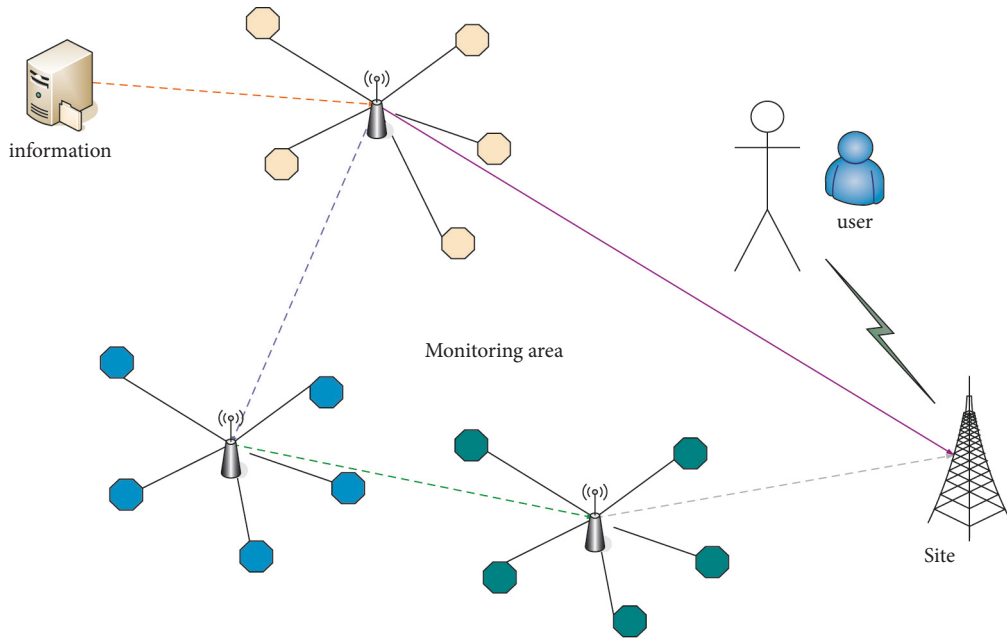
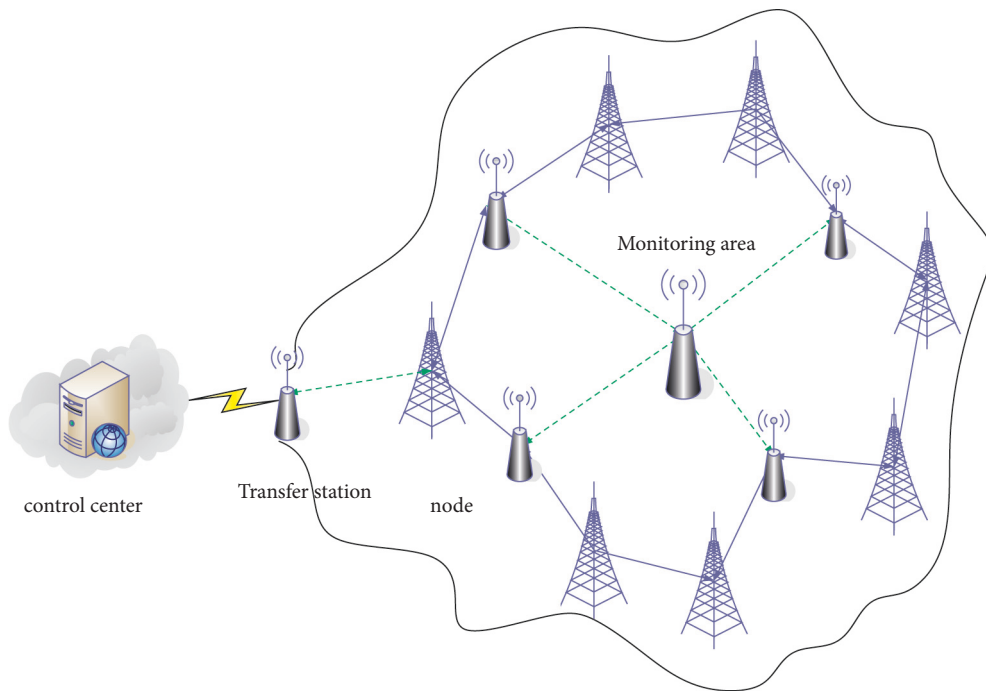FIGURE 5: Structure diagram of wireless sensor network.

FIGURE 6: Sensor safety monitoring structure.

communication has a low cost and can replace cables to connect computers and communication devices within a certain range. When the sensor detects the relevant information, it needs to be transmitted to the relay station in order to activate the real-time protection measures of the security system. The sensor safety monitoring structure is shown in Figure 6.

The control center is responsible for receiving the monitoring feature information from the network and can send instruction commands to the monitoring area at the same time; the transfer station has strong processing, storage, and communication capabilities and is responsible for receiving the data information from the sensor nodes and processing and sending to the control center.

4. Physical Health Experiment

4.1. Survey on the Basic Situation of Sample Data. The main body of college sports is college students, and teachers play a leading role in the development of college sports. In order to

TABLE 1: Gender sample composition.

Location	A	B	C	D	E	F	G
Female students	13	16	15	14	17	19	8
Male	9	5	6	9	9	11	18
Subtotal	22	21	21	23	26	30	26
Teachers	6	5	4	8	10	7	8
Total number	28	26	25	31	36	37	34

TABLE 2: Composition of majors and grades.

Category	Frequency	Percentage of overall population	Effective rate of questionnaire
Arts	98	41.4	95
Science	137	58.6	89
Freshman	90	38	94
Sophomore	145	62	91

understand the basic situation of college sports participants, we have investigated and analyzed the basic situation of colleges and universities. The details are as follows:

According to the data in Table 1, we have conducted a survey and analysis on the participants of 7 local colleges and universities. The subjects of the survey are divided into three categories: girls, boys, and teachers. There are 13 girls, 9 boys, 22 students, and 6 teachers in place A, so the total number of people in place A is 28. There are 16 girls and 5 boys participating in the survey in place B, the total number of students is 21, and there are 5 teachers, so the total number of participants in place B is 26. There are 15 girls and 6 boys participating in the survey in place C, the total number of students is 21, and there are 4 teachers, so the total number of participants in place C is 25. There are 14 girls, 9 boys, 23 students, and 8 teachers in place D, so the total number of people participating in the survey in place D is 31. There are 17 girls, 9 boys, 26 students, and 10 teachers in the survey in place E. Therefore, the total number of participants in place E is 36. There are 19 girls and 11 boys participating in the survey in place F, the total number of students is 30, and there are 7 teachers, so the total number of participants in place F is 37. There are 8 girls and 18 boys participating in the survey in place G, the total number of students is 26, and there are 8 teachers, so the total number of participants in the survey in place G is 34. According to the data, among the students who participated in the survey, there were more girls and fewer boys.

According to the data in Table 2, we divided the subjects participating in the survey into four categories: liberal arts, science, freshman, and sophomore. There are 98 liberal arts students, 41.4% of overall population, and the effective rate of the questionnaire is 95%. There are 137 science students, 58.6% of the population, and the effective rate of the questionnaire was 89%. There were 90 freshmen students, 38% of the population, and the effective rate of the questionnaire was 94%. There were 145 sophomore students, 62% of the population, and the effective rate of the questionnaire is 91%. According to the data, among the subjects participating in the survey, there are more science students than liberal arts students, and more sophomore students

than freshman students. This phenomenon is consistent with the current general situation, indicating that the data is more reasonable.

4.2. Questionnaire Validity Evaluation Survey. Validity refers to the degree of validity. In layman's terms, it is to test the validity of the collected data to ensure the validity of the collected data. In this questionnaire, we invited experts to test the validity of the design of the questionnaire. The details are as follows:

According to the data in Table 3, we have invited college teachers, associate professors, and professors to conduct a validity analysis of the questionnaire. Among the 7 college teachers who participated in the evaluation, 5 thought the questionnaire was very reasonable, 1 thought the questionnaire was reasonable, 1 thought the questionnaire was basically reasonable, and 0 thought the questionnaire was unreasonable. There are 6 associate professors participating in the evaluation, 3 think the questionnaire is very reasonable, 2 think the questionnaire is reasonable, 0 think the questionnaire is basically reasonable, and 1 think the questionnaire is unreasonable. There are 6 professors who participated in the evaluation, 4 think the questionnaire is very reasonable, 1 think the questionnaire is reasonable, 4 think the questionnaire is basically reasonable, and 0 think the questionnaire is unreasonable. According to the obtained data, 72.6% of the experts believed that the questionnaire was very reasonable, and 21% of the experts thought that the questionnaire was reasonable. It can be seen that the questionnaire is valid.

4.3. Investigation on Load Intensity of Students' Physical Training. Although we emphasize active participation in physical activities, the standards are not absolute, and in a specific exercise, we need to carry out reasonable training according to own physical fitness. To this end, we investigated the lightness of sports health load in colleges and universities, and the details are as follows:

According to the data in Table 4, we divided the load intensity of physical exercise into four categories: very small,

TABLE 3: Statistics of questionnaire validity evaluation.

Title	Number of people	Very reasonable	More reasonable	Basic and reasonable	Unreasonable
Higher education	7	5	1	1	0
Associate professor	6	3	2	0	1
Professor	6	4	1	1	0
Total	19	10	4	2	1
Percentage	100	72.6	21	4.3	2.1

TABLE 4: Physical education and health load intensity of college students.

Load intensity	Very small	Suitable	Larger	Very large
Female	2	58	19	5
Male	17	79	8	3
Total	19	137	27	8
Proportion	6.6	71.1	14.1	4.2

FIGURE 7: Analysis of physical education classroom instruction.

suitable, large, and very large. Among them, there are 2 girls and 17 boys who think that the load intensity is very small, a total of 19 people, accounting for 6.6% of the total number of respondents. There were 58 girls and 79 boys who thought the load intensity was appropriate, a total of 137, accounting for 71.1% of the total surveyed. There are 19 girls and 8 boys who think that the load intensity is higher, totaling 27, accounting for 14.1% of the total surveyed. There are 5 girls and 3 boys who think the load intensity is very high, totaling 8, accounting for 4.2% of the total surveyed. According to the data, it is reasonable for colleges and universities to master the overall exercise intensity. Boys can generally accept it at home, but for girls, the training load is larger. In the following training, the training intensity of girls can be appropriately reduced.

5. Characteristic Model of Physical Health Education

5.1. Physical Education Classroom Guidance. As the economy continues to grow, people are more concerned about, people pay more attention to their own comprehensive development, especially in the field of education, and people's requirements for the education industry are getting higher and higher. As an important source of talent training, colleges and universities need to continuously improve teaching measures and pay more attention to all-round development in physical education teaching. In order to study the current measures of colleges and universities in physical education, we conducted a survey of colleges and universities in a certain place. The details are as follows:

According to the data in Figure 7, the research on physical education teaching scheme is divided into two categories: guiding ideology and teaching objectives. In terms of guiding ideology, 71 people pursue lifelong education, 86% of the population, and 80 people, or 95% the population, were engaged in health education. Forty-one people, or 49.6% of the population, were engaged in skills education, and 75 people, or 78% of the population, were engaged in quality education. From the data, the most people pursued health education, while the least people were
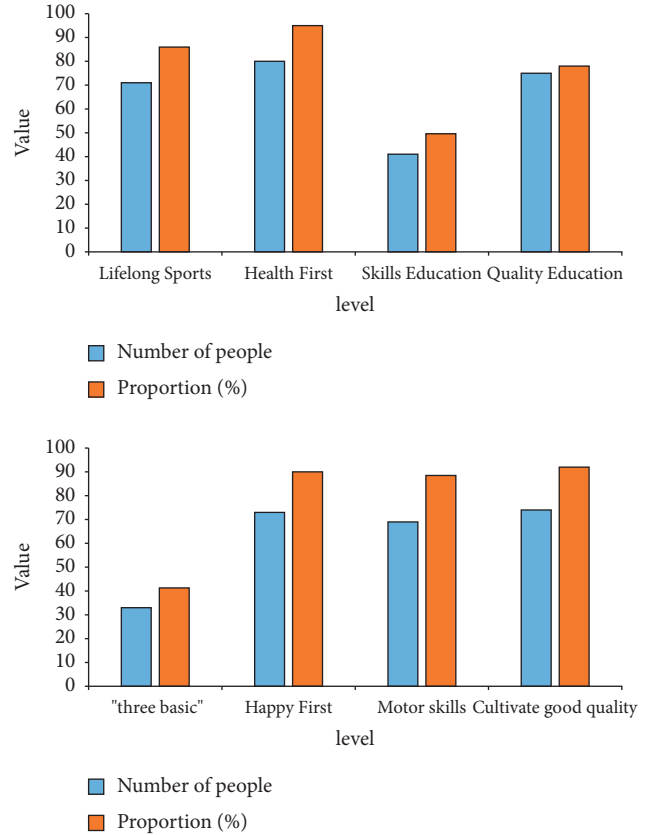
engaged in skill education. It is clear that in physical education, colleges and universities want students to develop scientific living habits and physical health.

In terms of teaching goals, 33 people pursued the three basic teaching goals, accounting for 41.3% of the total number, and 73 people pursued the concept of health first, accounting for 90% of the total number of people. There are 69 people who pursue the goal of mastering sports skills, accounting for 88.5% of the total number, and 74 people who pursue the goal of cultivating the good quality spirit, accounting for 92% of the total number. The data show that the teaching goals of health first and cultivating quality occupy the largest proportion. It can be seen from this that the school's physical education goal is based on the use of physical education to enable students to develop a lifelong concept of physical education when learning physical skills.

According to the data in Figure 8, investigation and analysis of sports courses divide them into traditional sports and emerging sports. In terms of traditional sports courses, 11 people participated in track and field sports, 13.6% of the
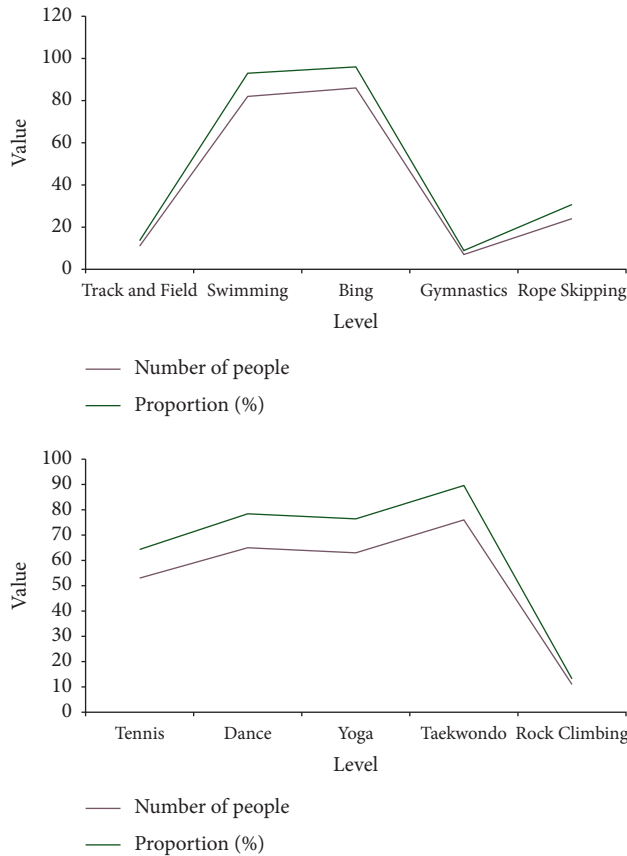
Figure 8: Analysis of physical education curriculum items.

Figure 9: Analysis of physical education methods.

whole population, and 82 people participated in swimming, 93% of the whole population. The number of participants in table tennis was 86, 96% of the total, 7 people participating in gymnastics, accounting for 8.9% of the total number, and 24 people participating in rope skipping, accounting for 30.7% of the total number. According to the data, in traditional sports, students are more inclined to swimming and table tennis, and less participation in track and field and gymnastics.

In terms of emerging sports courses, 53 people participated in tennis, accounting for 64.3% of the total, and 65 people participated in dance, accounting for 78.4% of the total. There are 63 people participating in more sports, 76.4% of overall participants, 76 participants in the taekwondo program, 86.9% of total participants, and 11 participants in rock climbing, 13.2% of total participants. Based on the data, there is little difference in the number of participants in other projects except rock climbing, but there is a big gap compared with the popular courses of traditional courses. It can be seen that traditional courses have great advantages in colleges and universities.

5.2. Physical Education Teaching Methods. In terms of teaching, we should pay attention to flexible changes, so we need to adopt different teaching methods according to different sports activities. To this end, we conducted a survey of teaching methods in colleges and universities.

Based on the data in Figure 9, we divide teaching methods into two categories: teaching methods and organizational methods. In terms of teaching, there are 37 people who use language transmission as the teaching method, 43.2% of the overall population. Direct perception was used as the instructional approach by 63 people, 74.4% of the population. Physical exercises were used by 53 students, 64.1% of the participants. Competition activities were used by 69 students, 80.5% of them. The number of those who used exploratory activities as instructional approach was 35, accounting for 46.7% of the total number. Based on the data, most teachers use body perception and competition activities as their teaching methods, indicating that teachers still attach great importance to skill teaching in the classroom.

In terms of organization, 20 people were divided into administrative classes, accounting for 24.1% of the total number, and 35 people were divided into classes by gender, 40.3% of the overall population. There were 63 students (74.9% of them) in classes by interest, 51 students (62.3% of them) in small classes, and 42 students (33.5% of them) in small groups. Based on the data, the proportion of classes according to interest is the highest, indicating that the school respects students' ideas, and the implementation of small class teaching can take care of most students, which is conducive to improving learning efficiency.
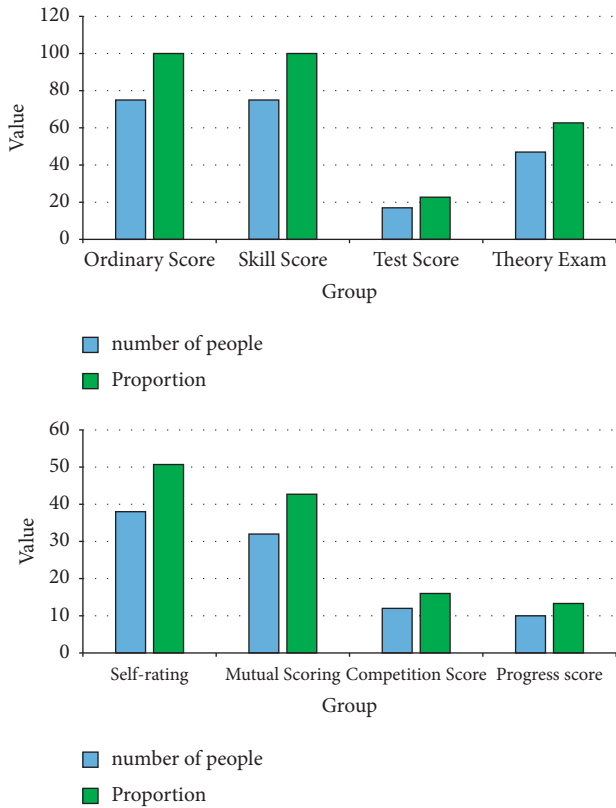
Figure 10: Analysis of the current situation of teaching evaluation.

5.3. Status Quo of Teaching Evaluation. According to the data in Figure 10, 75 people participated in the usual score evaluation, 100% of all participants, 75 people participated in the skills test assessment, 100% of the population. Seventeen people participated in the physical fitness assessment, or 22.7% of overall numbers, 47 people participated in the theory test assessment, or 62.7% of aggregate figures, and 38 people participated in the self-scoring, or 50.7% of aggregate figures. Thirty-two people participated in mutual scoring, 42.7% of all participants, 12 people participated in sports competitions, 16% of all participants, and 10 people participated in progress score evaluation, 13.3% of all participants. Based on the data, teachers' evaluation of students' teaching is mainly based on the average score and skill test score, which has a certain degree of objectivity.

6. Conclusions

Health is the first element of the quality of life. With the improvement of living standards and the increase of leisure time, people pay more and more attention to health. Especially in the aspect of physical education in colleges and universities, more attention is paid to the all-round development of students. Although this study explores the teaching methods of college physical education, there are still some shortcomings: (1) there are only some students and teachers in the questionnaire survey, and the sample size is relatively small and the representativeness is not strong enough, which limits the generality of the results of this study to a certain extent. (2) The guiding role of teachers in teaching implementation is very obvious. It is necessary to improve the teaching staff and equip enough teachers to ensure the smooth progress of teaching. This part of the content is not discussed in the article.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest in relation to this article.

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