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Internet of Things Chain Mechanism for the Development of College Sports by the Centralization of Sports Projects

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Abstract: The implementation of the centralization of sports projects is mainly based on the theoretical concept of the reform of the school sports model of "one school with one product" and "one school with multiple products", including four aspects: curriculum connection, activity system construction, project ecosystem and big data platform. The advantage of this is that it makes the strategy less difficult to implement, reducing the burden of actual work. Physical education is a discipline. However, there are several sports that at least support each other but have their own characteristics. It is very difficult for all sports to develop to the same level of the country at the same time. This paper was based on the development strategy of the centralization of sports projects, which was combined with the sports detection system under the Internet of Things. According to the physical quality and sports level of students, questionnaires and mathematical statistics methods were used to study the current development status and existing problems of physical education teaching in colleges and universities. The survey results concluded that 65.3% of the students were satisfied with the reformed teaching method. However, 34.7% of students were still very dissatisfied.

1. Introduction

The centralized implementation of sports events is one of the main challenges in the reform of physical education in colleges and universities. The implementation of this strategy is not only help to maintain the traditional sports culture of the school, but also help to increase students' enthusiasm for sports, which ultimately increases their enthusiasm for "lifelong sports". However, due to the lack of attention to the implementation of sports planning in various colleges and universities and

the lack of relevant understanding of physical education teachers, the implementation of sports planning in schools has not really been implemented. Therefore, this paper needs to carry out further research on the theory and practice based on the centralization of sports events, so as to promote the rapid development of school physical education.

The development of sports in colleges and universities has gradually become the focus of today's country and society. Hwang G's research examined the social responsibility of US university athletic departments and how these initiatives affected fans' willingness to contribute online. The results suggested that current approaches that focused on one athletic department might not be applicable to athletic programs at other colleges and universities in the United States. Future research should confirm the generalizability of the results by collecting data from other sports enthusiasts [1]. Ding B believed that popularizing sports could increase the knowledge of sports culture. It enabled young students to have a deeper understanding of sports, enjoy the thrill of sports, to gain more self-confidence and vitality, thereby improving their social adaptability [2]. The growing need for a healthy and beautiful lifestyle has academia talking about "fitness for all". Along with data analysis techniques, Liu Z was expected to develop a model to evaluate college sports assets. This model allowed the creation of an input-output indicator system for college sports funding, allowing for a more detailed analysis of the effectiveness of college sports funding allocations [3]. There are problems such as insufficient supporting facilities and aging of sports facilities in the community. Community sports resources are difficult to match with the sports needs of local residents. The development of college sports facilities could help ease residents' concerns about wanting to stay healthy. Chen X developed a process model based on AHP and Delphi method for public sports. He also combined questionnaires to investigate issues related to the provision of college sports resources [4]. Cheng J was based on the behavior analysis of physical education in colleges and universities, and combined with artificial intelligence technology and physical education analysis methods, which enriched the existing physical education behavior analysis. To further verify the scientificity and functionality of the framework, he took the results of visual analysis with identifying emotions as an example and combined it with real features and examples [5]. The above scholars have used some methods to study physical education in colleges and universities, but they did not specify the research methods.

The emergence of the Internet of Things (IoT) has facilitated the rapid development of many industries, and sports are no exception. Gowda M described an experiment in sports analytics using an IoT platform. The technology could be used for other sports, such as baseball. Besides, the technology was being developed for each field [6]. Suganuma T discussed the challenges posed by rigid traditional IoT architectures and edge computing. The architecture was a flexible, advanced, environmentally friendly, user-oriented IoT system model. He also presented a case study of its use in healthcare systems in sports with a large number of participants [7]. Han J believed that with the development of IoT, it was increasingly possible for people to understand how certain physical behaviors and sports affect human health and life, and how to adapt to work and play. As people abandon their busy lifestyles, smart technologies and daily behaviors being used to monitor physical activity or predict physical fitness are an important part of smart cities [8]. Chu C C believed that the multidisciplinary nature of sports disciplines brought various challenges, such as the collection of various data, the accuracy of knowledge generation and the availability of tools. IoT technology offered promising solutions for various sports [9]. Gong W studied how to optimize an intelligent multimedia distance learning system for physical education. He believed that the intelligent multimedia distance education system optimized for physical education had produced better results. Operators could use the query function, search function, and database design function to manage physical education teaching, which effectively improved the work efficiency of teachers [10]. Although these scholars have used IoT technology to study and explain college sports, they still

lack a specific experimental process.

The findings of this paper have theoretical and practical implications. The theoretical value of this research is that the implementation of teaching research focused on sports events can provide guidance for future college physical education teaching. The practical value of this research lies in: the results of the research help to better support the reform of physical education curriculum. It has a significant impact on the overall physical and mental development of students, which helps to coordinate and facilitate the implementation of physical education in schools.

2. IoT-based Sports Motion Detection System

With the increasing popularity of sports monitoring systems, the use of sports monitoring systems is also increasing [11]. Currently, motion monitors on the market are designed to monitor the physical condition of students. These systems focus on handheld device data collection.

Here, a motion tracking system based on IoT three-layer infrastructure is proposed, which is described in detail from three aspects: system architecture, structural logic and functional modules.

2.1. System Design

The hardware platform of the motion detection system is divided into four layers according to the traditional IoT architecture, as shown in Figure 1. The bottom layer contains a perception layer, such as a smart bracelet device, which sends the received data to the transport layer. Then it integrates the data at the platform layer, and finally analyzes the data, which provides users with real-time tracking data at the application layer [12].

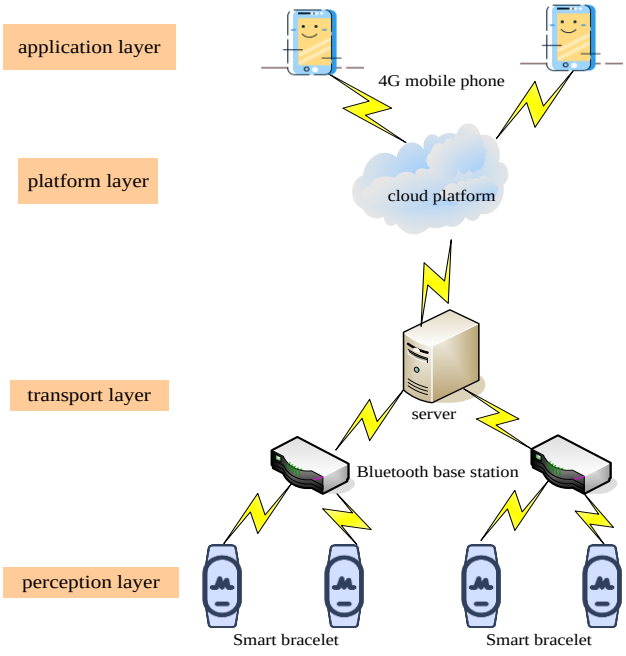


Figure 1. IoT architecture diagram of motion monitoring system

2.2. Recommendation System

(1) Introduction of the recommendation system

The recommendation system basically consists of three parts: user, recommendation algorithm and recommendation object. The recommendation process is shown in Figure 2.

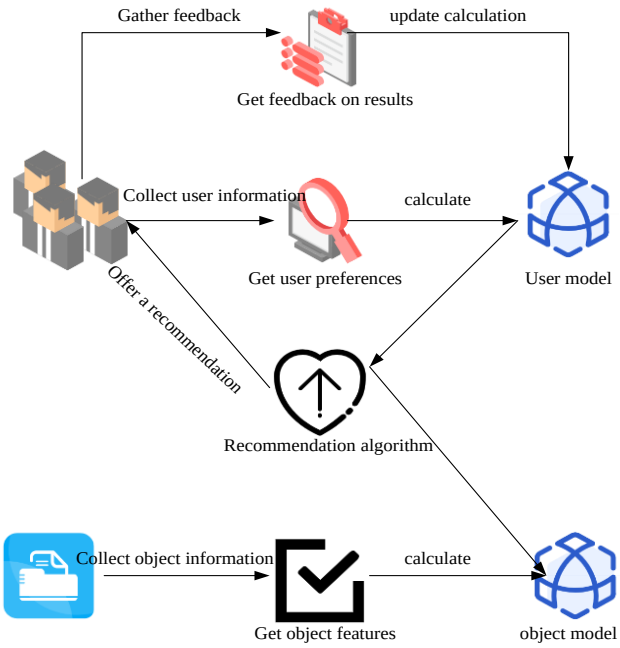


Figure 2. Recommendation process

(2) Evaluation index of the recommendation system

Recommender system evaluation is an important topic in the field of recommender systems. The various types of evaluation indicators are as follows:

Mean Absolute Error (MAE):

$$MAE = \frac{\sum_{j=1}^{U} | q_j - t_j |}{U} \tag{1}$$

Mean Squared Error (MSE):

$$MSE = \frac{\sum_{j=1}^{U} (q_j - t_j)^2}{U} \tag{2}$$

Root Mean Square Error (RMSE):

$$RMSE = \sqrt{\frac{\sum_{j=1}^{U} (q_j - t_j)^2}{U}} \tag{3}$$

Normal mean absolute error (NMAE):

$$NMAE = \frac{MAE}{t_{\max} - t_{\min}} \tag{4}$$

Among them, U is the number of objects evaluated by the user. $\{q_j\}$ is the set of predicted user evaluations. $\{t_j\}$ is a collection of actual user evaluations. $t_{\max}$ and $t_{\min}$ are the maximum and minimum user ratings, respectively.

(3) Singular Value Decomposition (SVD)

Some commonly used recommendation algorithms often do not fully consider the target user model, and there are naming conflicts. In response to these problems, model-based collaborative filtering algorithms have become an alternative to traditional collaborative filtering algorithms [13].

SVD is a general eigenvalue analysis of arbitrary matrices. Since user and product evaluation matrices are not necessarily square matrices, this matrix factorization method can be used to reduce the dimensionality of evaluation matrices under recommender systems [14]. Assuming that T is an N×M matrix, it can be decomposed into three matrix multiplications, namely:

$$T = O\sum U^R \tag{5}$$

Among them, O is an N×N square matrix. Σ is an N×M matrix. U^R is an M×M square matrix. The decomposition effect is shown in Figure 3.

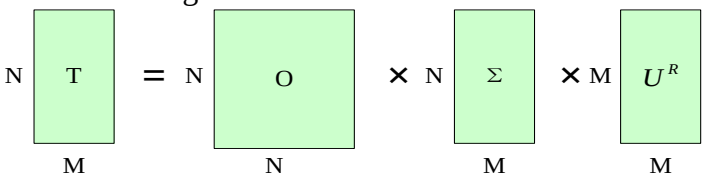


Figure 3. Singular value matrix decomposition renderings

The unit value of the matrix T is obtained using the M-order eigenvalues of the square matrix $T^R T$.

First the eigenvalues are obtained:

$$(T^R T)u_j = \alpha_j u_j \tag{6}$$

Among them, u is the unit vector on the right. In addition, it can also be obtained:

$$\beta_j = \sqrt{\alpha_j} \tag{7}$$

$$o_j = \frac{1}{\beta_j} T u_j \tag{8}$$

Among them, β is the singular value and o is the left singular vector.

2.3. Latent Semantic Model

SVD models initially require averaging over previously estimated data. However, Latent Semantic Model uses a machine learning approach. User correlation matrix and object correlation matrix are used as model parameters. The previously estimated data is used as the dataset, and the difference between the expected and actual estimates is used as the loss function of the model. The optimal solution is obtained using loss function optimization and stochastic gradient descent algorithms [15].

Latent Semantic Model is believed that if two motion guides (with text, images, audio or video) are seen by many users at the same time, there must be some similarity between the two motion guides [16].

The rating matrix T is decomposed into two low-dimensional matrix multiplications:

$$\hat{T} = QP^R \tag{9}$$

Among them, $Q \in T^{o \times h}$ and $P \in T^{j \times h}$ are two dimensionally reduced matrices.

The predicted value $\hat{T}(o, j) = \hat{t}_{oj}$ can be calculated by the following formula:

$$\hat{t}_{oj} = \hat{T}(o, j) = Q_o P_j^R = \sum_{h=1}^{H} q_{o,h} p_{h,j} \tag{10}$$

Among them, $q_{o,h} = Q(o,h)$, $p_{h,j} = P(j,h)$.

First the parameter values of the Q matrix and the P matrix are calculated, and then corresponded to the Q matrix and the P matrix. In particular, the loss function $D(q, p)$ in this case is the root mean square error representing the actual and predicted scores of training instructions between user o and exercise guide j. The loss function is expressed as:

$$D(q, p) = \sum_{(o,j) \in Train} (t_{oj} - \hat{t}_{oj})^2 \tag{11}$$

Among them, γ is the regularization parameter with a value of 0.01, so that:

$$D(q, p) = \sum_{(o,j) \in Train} (t_{oj} - \sum_{h=1}^{H} q_{o,h} p_{h,j})^2 + \gamma(\| q_o \|^2 + \| p_j \|^2) \tag{12}$$

The fastest descent direction is determined by taking the partial derivatives of parameters $q_{o,h}$ and $p_{h,j}$:

$$\frac{\partial D}{\partial q_{o,h}} = -2(t_{oj} - \sum_{h=1}^{H} q_{o,h} p_{h,j}) p_{h,j} + 2\gamma q_{o,h} \tag{13}$$

$$\frac{\partial D}{\partial p_{h,j}} = -2(t_{oj} - \sum_{h=1}^{H} q_{o,h} p_{h,j}) q_{o,h} + 2\gamma p_{h,j} \tag{14}$$

Iterative computation continues to optimize parameters until convergence:

$$q_{o,h} = q_{o,h} + \beta((t_{oj} - \sum_{h=1}^{H} q_{o,h} p_{h,j}) p_{h,j} - \gamma q_{o,h}) \tag{15}$$

$$p_{h,j} = p_{h,j} + \beta((t_{oj} - \sum_{h=1}^{H} q_{o,h} p_{h,j}) q_{o,h} - \gamma p_{h,j}) \tag{16}$$

Among them, β is the learning rate, and the iteration speed decreases faster as the value of β increases.

2.4. Weight Calculation Method

First, the three dimensions of user personal characteristics, user adoption characteristics, and user perception must be specified. Then, it is normalized to a user behavior data matrix, where the dimension of each feature in the data matrix can be visually represented [17].

(1) User personal attributes

The matrix $q_{o,h}$ of order W × 2 represents the user's exercise level and gender, and the feature weight calculation formula is defined as follows:

$$b_{oj} = Q_{oh} P_{jh}^R \tag{17}$$

(2) The degree of user adoption

This matrix d_{oj} represents the user-perceived weights in the matrix decomposition. r_{oj} represents the number of hours that the user viewed j's activity guide. Then the calculation formula of adoption degree weight is defined as follows:

$$d_{oj} = \frac{1}{1+\log(r_{oj} \times 10^{u})} \tag{18}$$

(3) User data behavior weighting matrix

The data behavior weight matrix is a weight matrix composed of the total weights obtained by normalizing the three dimensions using the specific default calculation formula $\beta + \chi + \delta = 1$:

$$w_{oj} = \beta \frac{b_{oj}}{\| b_{oj} \|^2} + \chi \frac{e_{oj}}{\| e_{oj} \|^2} + \delta \frac{f_{oj}}{\| f_{oj} \|^2} \tag{19}$$

The predicted classification of the motion guidance j_3 by the user o_1 is given by the product of the eigenvector q_{o1} in the matrix Q and the power of the eigenvector P_{j3}^{R} in the matrix P. The calculation is as follows:

$$\hat{t}_{o1,j3} = \hat{T}(o1, j3) = Q_{o1} P_{j3}^{R} = \sum_{h=1}^{H} q_{o1,h} p_{h,j3} \tag{20}$$

Among them, $q_{o1,h}$ is the solution parameter, and $p_{h,j3}$ is the solution parameter.

Combined with the weighting matrix w_{oj}, a loss function is established, and the formula is:

$$D(q, p) = \sum_{(o,j) \in Train} (t_{oj} + w_{oj} - \hat{t}_{oj})^2 = \sum_{(o,j) \in Train} (t_{oj} + w_{oj} - \sum_{h=1}^{H} q_{o,h} p_{h,j})^2 \tag{21}$$

3. Development of Sports in Colleges and Universities by the Centralization of Sports Events

3.1. Centralization of Sports Projects

In order to ensure the systematic development of the sports vertical, many countries have adopted the development strategy of "sport centralization". The new era proposes that college sports should learn from excellent experience to achieve "centralization of sports projects" and focus on developing sports courses. The integration of sports and education is promoted through the classification of courses, the school sports ecosystem and big data platform are constructed, and finally the healthy development of school sports is realized [18]. The strategic road map of the centralized development of sports projects in college sports development is shown in Figure 4.

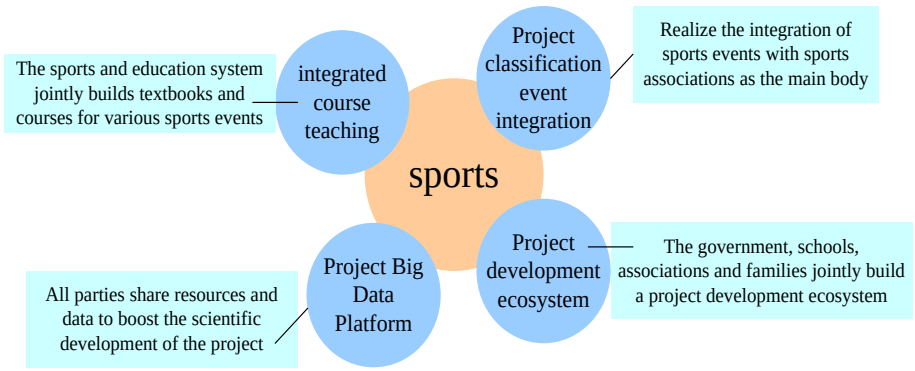


Figure 4. The strategic road map of the centralized development of sports projects in the development of sports in colleges and universities

The centralization of sports projects is based on the theoretical basis of subject pedagogy and the law of sports project development, which is mainly aimed at some problems existing in various colleges and universities. Taking the teaching development of different sports as the center line, the vertical arrangement of relevant knowledge points and the teaching of techniques is from easy to difficult [19]. In addition, sports are developed in the form of sports clubs and associations to promote the education and development of sports. It helps individuals acquire the necessary sports skills and interests, ensuring life-long development of the individual, which ultimately contributes to the development of sport and the advancement of the whole person and society.

3.2. Experimental Objects and Methods

(1) Experimental objects

This study focuses on the centralization of sports events as the focus of the development of physical education in this university. In order to make the experiment more comprehensive, researches are also carried out on the faculty status, equipment and resources arrangement of the college sports. At present, the gaps and weaknesses of physical education in various colleges and universities have been identified to provide a framework for future physical education reforms.

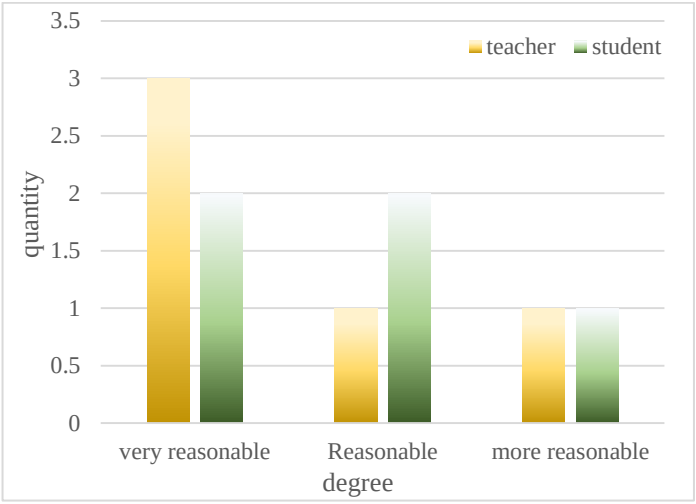
(2) Experimental methods

1) Questionnaire survey method

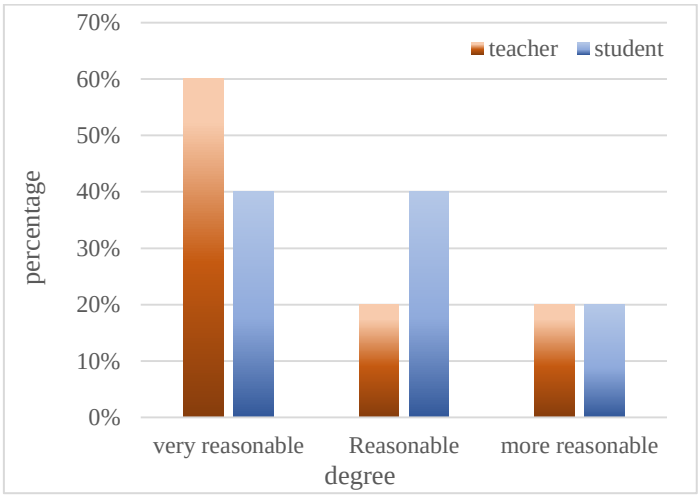
The questionnaire is prepared for physical education teachers and students. In order to determine the current state of development of college physical education, the information is categorized and aggregated.

2) Validity test of the questionnaire

To ensure the validity of the questionnaire, the relevant data are reviewed and improved in this study. The results of the numerical study of the teacher-student questionnaire design are shown in Figure 5. Among them, the numerical results of the questionnaire design are shown in Figure 5(a). The results of the numerical study population percentage of the questionnaire design are shown in Figure 5(b).



(a) The results of the survey of the number of experts in the questionnaire design of teachers and students



(b) The results of the percentage survey of the number of respondents to the questionnaires designed by experts for teachers and students

Figure 5. Survey results from experts on questionnaire design for teachers and students

As can be seen from Figure 5, the above results show that all the questionnaires designed this time are effective.

3) Reliability test of the questionnaire

In this study, teachers and students are randomly selected to conduct a questionnaire survey. Then another test is conducted 15 days later, which is to ensure the reliability of the proposed questionnaire. By comparing the results before and after the two questionnaires, it is clear that the questionnaire data is reliable.

4) Mathematical statistics

Using SPSS17.0 statistical software and Excel form, the data obtained from the questionnaire are statistically analyzed.

3.3. Investigation on the Current Situation of Physical Education Teaching in Colleges and Universities

(1) Physical education teachers

1) Survey of physical education teachers

Only with a reasonable age structure can physical education teachers effectively support the smooth development of learning activities. The age survey results are shown in Table 1.

Table 1. Physical education teachers' age status questionnaire

Age	20-30	30-40	40-50	50-60	Total
Male	4	4	10	2	20
Female	0	2	2	0	4
Total	4	6	12	2	24
Percentage（%）	16.7	25	50	8.3	100

As shown in Table 1, among the 24 physical education teachers in this school, the age is basically between 30-50 years old. Data show that in recent years, college physical education teachers have generally become younger, which is related to the Ministry of Education's emphasis on the construction of teaching staff and the general availability of physical education teachers in colleges and universities.

2) Physical education teachers' cognition on the centralization of sports events

Physical education teachers can successfully promote the implementation of this work only if they fully understand the development strategy of sports project centralization [20]. Teachers' cognition of sports centering is shown in Figure 6.

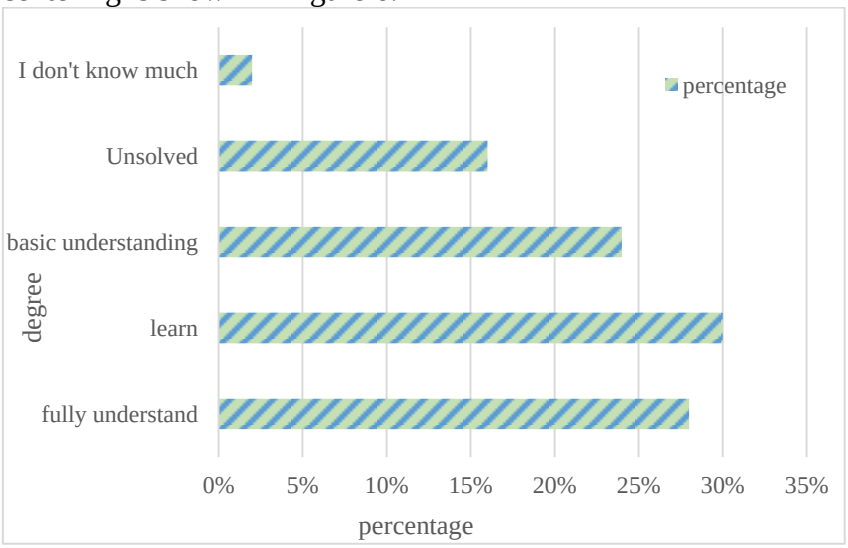


Figure 6. Teachers' perception of sports centralization

As shown in Figure 6, 58% of PE teachers understand the strategy. A majority of 24% know it, and 18% of teachers don't know or don't know at all. The data shows that most college physical education teachers have some knowledge of the strategy. Most youth physical education teachers believe that the strategy can be implemented well. Conversely, the majority of PE teachers who cannot embrace the strategy are slightly older teachers.

3) PE teachers' cognition of the new curriculum standards

The new curriculum is the basis for physical education teachers to carry out physical education. The cognition of the new curriculum standard is shown in Figure 7.

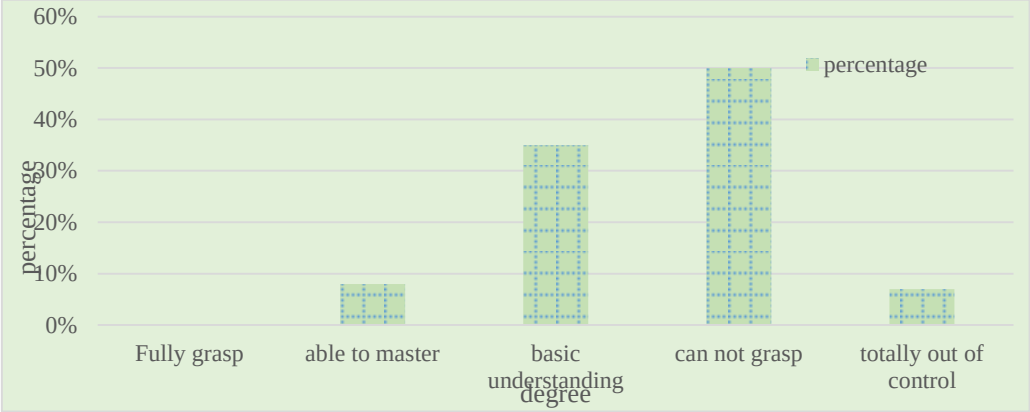
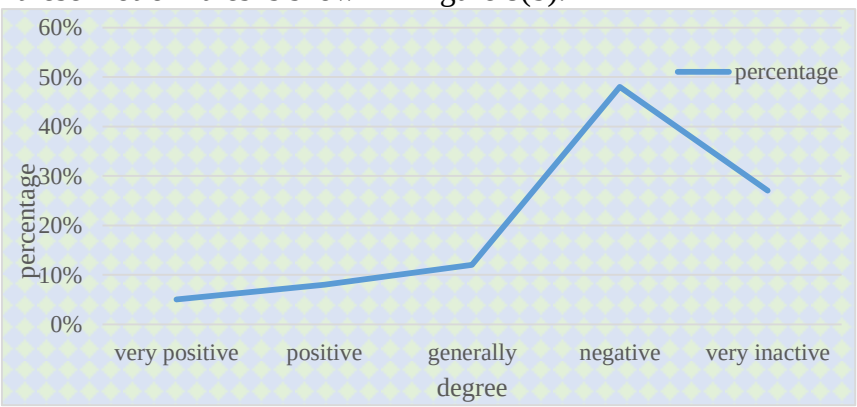


Figure 7. Physical education teachers' awareness of the new curriculum standards

As shown in Figure 7, only 8% of teachers understand the new standard. 35% of teachers have a basic understanding of the new curriculum. 50% of teachers do not understand the new curriculum standard very well. Moreover, 7% of teachers do not understand the new curriculum standard at all. The data shows that the implementation of the new standards for physical education in the school is very weak. More than half of the physical education teachers have only heard of the new curriculum standard and do not understand the specific content and requirements.

(2) Survey on the enthusiasm of physical education classes and the degree of understanding of the project rules

Students are the center of physical education. Students' subjective motivation and willingness have a significant impact on the promotion of physical education teaching and the improvement of teaching quality. The survey and analysis of students' enthusiasm for physical education and their understanding of project rules are shown in Figure 8. Among them, the research and analysis of students' motivation for PE lessons is shown in Figure 8(a). The research and analysis of the degree of understanding of these motion rules is shown in Figure 8(b).



(a) Investigation and analysis of the enthusiasm of physical education class

(b) Investigation and analysis of the understanding of sports rules

Figure 8. Survey analysis of enthusiasm for physical education and understanding of program rules

According to Figure 8(a), only 5% of students are interested in physical education. 8% of students feel it is okay. 12% of the students think it is average. 75% of students are not very motivated in physical education class. It shows that students are not active in physical education classes at present, and teachers' teaching methods need to be changed.

As shown in Figure 8(b), only 3% of the students fully understand the rules of some sports. 16% of students understand part of it. 27% of the students indicate a basic understanding. 38% of students think they basically do not understand. 16% think they have not touched it at all. It shows that more than half of the students do not understand the rules of sports events, mainly because they feel that the rules of these events are cumbersome.

(3) The equipment and facilities of the university's sports venues

The centralized development strategy of sports projects is constructed and implemented on the basis of standardized sports facilities. The survey revealed that the school has only sports fields, tennis courts and basketball courts. The university also lacks facilities such as badminton, swimming pools and gyms due to limited space. The main reason for this is that school leaders do not pay enough attention to physical education, and the school has limited ground resources.

Although the school has the necessary sports equipment for students to attend classes, the school does not have all the sports equipment stipulated by the Ministry of Education [21]. It is also found that the school fails to replace and repair equipment in a timely manner. The reason for these problems is that school leaders and physical education teachers do not pay enough attention. There is no dedicated person in charge to manage this aspect of the work.

(4) Investigation on the centralized implementation of sports events

A variety of sports programs not only enrich and supplement the physical education curriculum, but also stimulate students' enthusiasm for sports more effectively. The implementation of the school's sports program centralization is investigated here. The survey results are shown in Table 2.

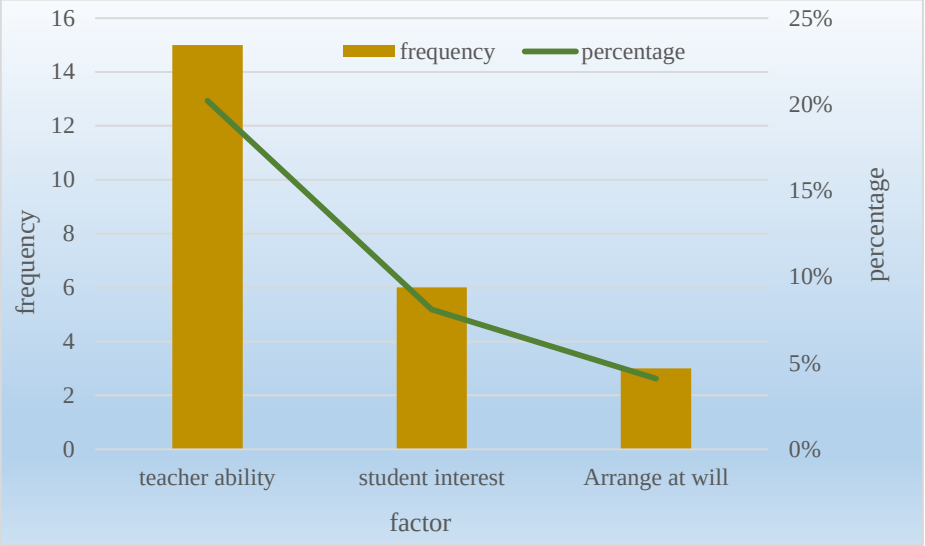
Table 2. Survey on the opening of sports events

Project	Gym class	Extracurricular sports	Project	Gym class	Extracurricular sports
Track and field	5	5	Pingpong	4	5
Basketball	5	5	Badminton	1	0
Volleyball	3	2	Martial arts	5	4
Football	5	5	Gymnastics	1	0

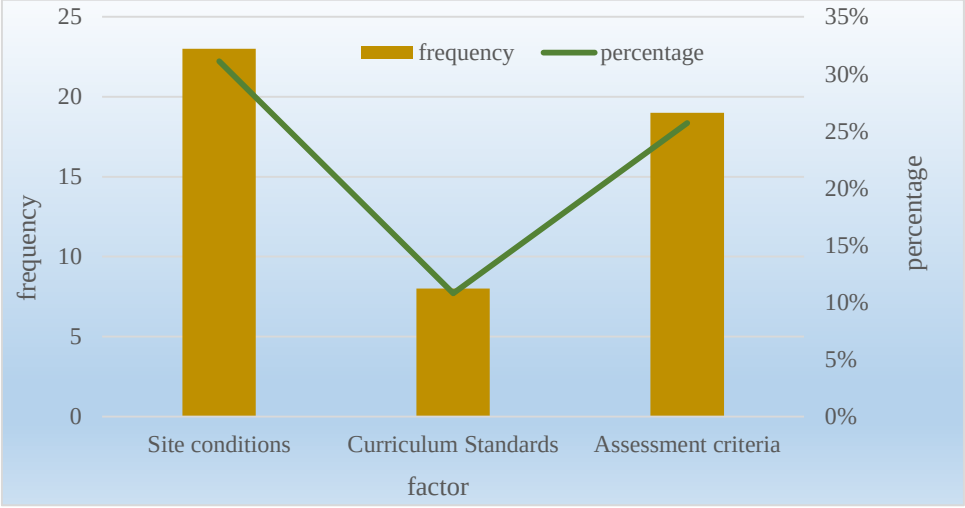
As can be seen from Table 2, the more common sports such as track and field, football,

basketball, martial arts and table tennis have been carried out smoothly. Gymnastics and badminton are rarely offered in physical education classes.

When teaching physical education, physical education teachers consider various factors that affect the choice of teaching content, and the results are shown in Figure 9. Figure 9(a) shows the subjective factors based on which teachers select teaching content. Figure 9(b) shows the objective factors on which teachers select teaching content.



(a) Subjective factors on which teachers choose teaching content



(b) Objective factors on which teachers choose teaching content

Figure 9. Factors on which teachers choose teaching content

As shown in Figure 9, 20.2% of physical education teachers choose course content according to their own abilities. 8.1% choose based on student interest. 31.1% of teachers choose according to the condition of facilities and equipment. 4.1% of teachers are more randomized. 10.8% are selected based on course criteria. 25.7% is based on school assessment requirements. The data shows that most of the school's physical education teachers do not choose physical education content from the perspective of the new curriculum, which may be due to misunderstanding and insufficient understanding of the new curriculum.

(5) Physical education teaching methods

1) Current teaching methods

In order to improve the quality of physical education more efficiently, physical education teachers must follow certain teaching methods. The results of the survey on teaching methods are shown in Figure 10.

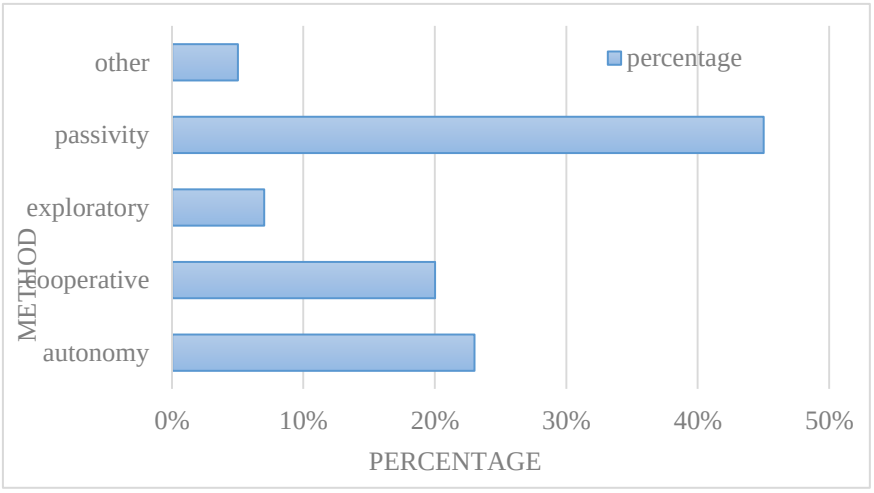


Figure 10. Survey results of teaching methods selected by teachers in class

As shown in Figure 10, 23% of PE teachers choose the self-directed learning method. 20% of teachers choose the cooperative learning method. 7% of teachers choose inquiry-based learning, and almost half of teachers choose passive learning methods. The results show that the school's physical education teachers do not actively guide students to conduct inquiry-based learning under the new curriculum standards.

2) The centralized teaching method of sports events

Figure 11 shows the survey results of teachers' teaching methods after the implementation of sports program centralization.

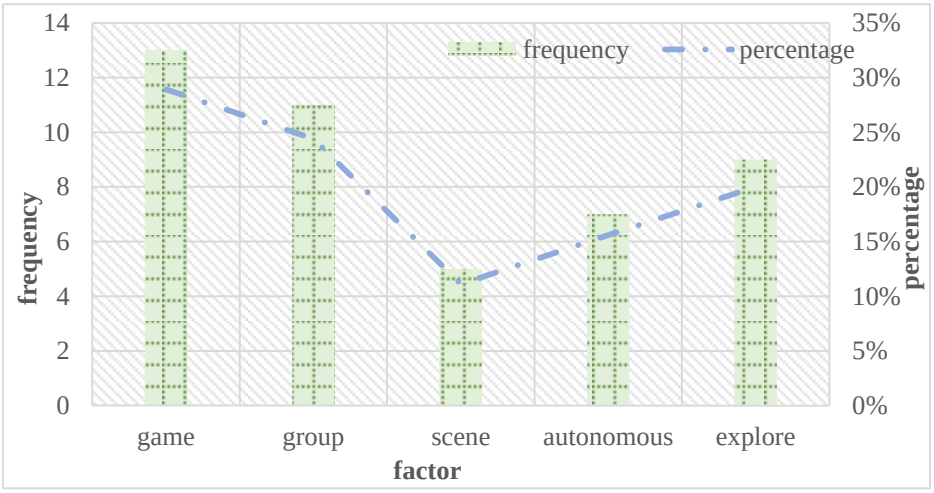


Figure 11. Survey results of teachers' teaching methods after implementing sports program centralization

As shown in Figure 11, 28.9% of teachers choose the game-based approach to teaching. 24.4% of teachers choose the form of group cooperation for learning. 11.1% of teachers choose situational teaching. 15.6% of teachers choose independent study. 20% of teachers choose the inquiry learning

method. The data shows that more than half of physical education teachers are game-based, supplemented by group cooperation activities when appropriate. However, situational, autonomous, and inquiry-based learning is relatively rare.

(6) The effect of physical education teaching

1) Satisfaction survey on current physical education teaching methods

Whether students are satisfied with the teaching method affects the whole teaching classroom and learning atmosphere. Regarding whether students are satisfied with the current teaching methods, the survey results are shown in Table 3.

Table 3. Student satisfaction survey with current physical education teaching methods

Satisfaction level	Number of people	Percentage
Very satisfied	7	3.5%
Satisfy	18	9.2%
Quite satisfied	32	16.3%
Dissatisfied	121	61.7%
Very dissatisfied	18	9.2%

Table 3 shows that more than half of the students do not agree with the current teaching method. Only 29% of students are satisfied with the current teaching method.

2) Satisfaction survey after the implementation of centralized sports teaching

Regarding whether students are satisfied with the implementation of centralized sports teaching, the survey results are shown in Table 4.

Table 4. Student satisfaction survey after the implementation of centralized sports teaching

Satisfaction level	Number of people	Percentage
Very satisfied	18	9.2%
Satisfy	31	15.8%
Quite satisfied	79	40.3%
Dissatisfied	67	34.2%
Very dissatisfied	1	0.5%

Table 4 shows that 65.3% of students are satisfied with the reformed teaching method. However, 34.7% of students are still very dissatisfied. According to the survey results, the implementation of the centralized teaching of sports events has achieved certain results, but it is still not satisfactory. Nearly 35% of students are still dissatisfied with the implementation of physical education after the transformation.

4. Conclusion

The basic idea of implementing the centralized teaching of sports events is based on the new curriculum and the learning theory of humanistic constructivism. The most basic and realistic requirement of physical education curriculum is to implement the principle of "lifelong sports", which emphasizes the sports value of "life-oriented". College physical education teachers should consider the individual differences and psychological dynamics of students when designing physical education teaching, so that every student can benefit from it. At the same time, it is necessary to take into account the principle of "health first". It is necessary to integrate information related to the healthy development of students, and pay attention to the specific details of the characteristics of physical education, so that students can better understand the sports culture. Schools should develop physical education in accordance with the principle of balanced

development and distinctive characteristics, and actively and seriously develop physical education resources in accordance with the laws of physical and mental development of students, which could speed up the centralized construction of school sports programs.

This paper has studied the Internet of Things chain mechanism of college sports development based on the centralization of sports projects. However, the research time is short, and some data are not representative of the whole. It is hoped that researchers in related fields can conduct more detailed research in a deeper and broader scope in the future, which would provide better suggestions for the development of physical education in colleges and universities.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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