

# *Development of a Comprehensive Platform for Campus Sports*

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**Keywords:** Sports Competition, Campus Sports Platform, Sports Development

**Abstract:** From the degree of sports activities in colleges and universities across the country, the awareness of sports in colleges and universities needs to be strengthened, and the process of carrying out regular intramural sports competitions is cumbersome, which leads to a low density of sports competitions, which do not allow for sufficient training and do not lead to an improvement in the physical fitness of college students. At the same time, with the development of physical education, there are many kinds of physical education courses, and there are problems such as inconvenient communication between teachers and students and less time for students' physical exercise after class. Therefore, we can make use of the comprehensive platform of campus sports, "Sports Link+", to increase the frequency of activities, so that more students can actively participate, improve the management of physical education courses, focus on physical exercise, and achieve the purpose of physical fitness. The platform makes the competition more organized, and at the same time establishes a sound teaching feedback mechanism, which achieves the purpose of promoting sports and improving the sports literacy of college students in various aspects.

## 1. Introduction

In recent years, the quality of physical education in China's colleges and universities has improved, and some problems of physical education in colleges and universities have also received increasing attention. In the report of the 19th National Congress of the CPC, General Secretary pointed out that it is necessary to do a good job in youth sports, promote the comprehensive development of mass and competitive sports, and accelerate the construction of China as a sports power [1]. The purpose of school sports is to promote the overall development of students, cultivate healthy habits, cultivate the spirit of cooperation and teamwork, and improve students' physical fitness and athletic ability, and comprehensively improve the overall quality of students, which is of great significance to promoting the modernization of education and building a strong country in education and sports. Mass sports activities in colleges and universities should pursue the main goals of improving students' physical fitness, reaching out to all students, popularizing activities and self-training, with mass activities as the main goal of improving students' physical and mental health, which is an important content of campus sports and cultural life. With the continuous expansion of competitions, their scope and form, and the gradual diversification of sports courses,

the former manual management method can no longer meet the requirements. Therefore, the school's sports department has introduced various information management systems using computer technology to realize the "Sports Link+".

## 2. Campaign Participation Survey and Feedback

### 2.1. Subject and Scope of the Study

In modern society, where the pace of life continues to accelerate, the role of physical activity in the physical and mental development of college students is becoming increasingly apparent. However, in real life, there are great differences in the number, frequency, and duration of participation in athletic competitions. The subject of this study is the sports situation of college students, the scope of Xianghuai Road, Benxi, Liaoning, China college students, through combing the questionnaire feedback data this effective fill in the number of 473 people, through the form of survey feedback this effective interview number of 125 people. The questionnaire contains single-choice, multiple-choice and open-ended questions and answers and other types of questions to cover a wide range of respondents. At the same time, different interviews were conducted to gain a deeper understanding of different groups of people and to ensure the diversity of the research results.

### 2.2. Methodology of the Survey

The survey was conducted using an online questionnaire and random on-campus interviews to analyze the data from the collected results. The questionnaire was designed with different question types such as multiple-choice, multiple-response and open-ended responses to cover a wide range of respondents. At the same time, in-depth interviews were conducted to gain a deeper understanding of the different groups of people and to ensure the diversity of the research findings.

#### 2.2.1. Questionnaire Approach

The questionnaire method is one of the most frequently used basic methods in survey research. It is a method in which respondents are interviewed individually or collectively and the information obtained from the interviews is used to infer and evaluate the attitudes of the respondents. This method is time-saving, labor-saving, efficient and easy to use.

We investigated the weekly exercise frequency of college students using the questionnaire method. First, we listed a total of 20 relevant questions on the questionnaire of college students' exercise, and then we disseminated our questionnaire by sending the QR code to the class group, circle of friends, lecturer's WeChat and other channels. Then we collect and organize the data through the background of the questionnaire and visualize the results of the questionnaire through the form of icons (See Table 1).

Table 1: Weekly movement frequency

	quorum	percentage
Exercise 1-2 times per week	315	63%
Exercise 3-4 times per week	130	26%
Hardly plays any sports	55	11%
add up the total	500	100%

Of the group surveyed, there were 500 people with valid data out of 473, of whom 63% exercised 1 to 3 times a week, 26% exercised 4 to 6 times a week, and the remaining 11% did not exercise at all(See Table 2).

Table 2: Average duration of each exercise session

	quorum	percentage
2-3 hours	102	21%
1-2 hours or so	153	30%
Less than 1 hour	245	49%
Add up the total	500	100%

The survey data shows that around 21% of people exercise for 2-3 hours at a time, 30% exercise for 1-2 hours at a time and the remaining 49% exercise for less than an hour at a time.

Data from the World Health Organization shows that more than 80% of young people worldwide do not get enough exercise. The World Health Organization recommends that [2] Adolescents should engage in at least 150-300 minutes of moderate-intensity aerobic physical activity or at least 75-150 minutes of vigorous-intensity aerobic physical activity, or a combination of moderate-intensity and vigorous-intensity activities, to achieve an equivalent amount of physical activity per week. If additional health benefits are sought for increased physical fitness, moderate-intensity aerobic physical activity can be increased to more than 300 minutes per week; or more than 150 minutes of high-intensity aerobic physical activity can be performed. Questionnaire statistics indicate that college students lack physical exercise, which may lead to a decline in physical fitness and a gradual decrease in enthusiasm for sports. Insisting on exercise is not only a kind of exercise habit, but also a kind of exercise consciousness.

In order to understand why students lack physical activity, we asked some questions in the questionnaire, such as: What do you think are the factors that prevent you from being physically active? Different students gave different answers (See figure 1).

#### Participate In Movement Disorder Assessment

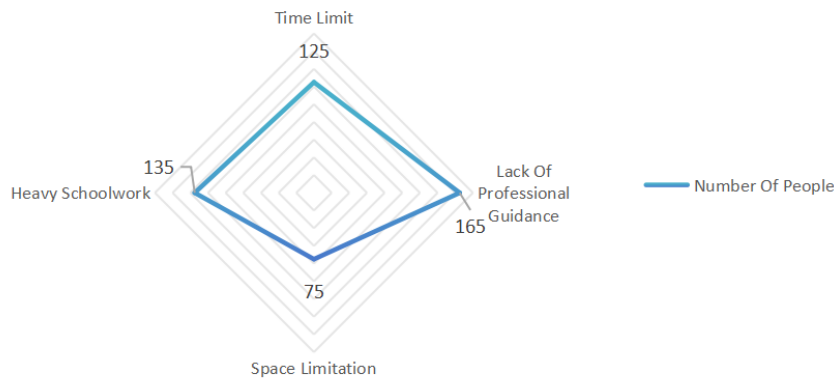


Figure 1: Participation in Movement Disorder Assessment

In terms of participation in sports activities, about 25% of students stated that the biggest problem was time, 27% felt that the stress of school work also interfered with sports, 15% felt that space constraints were a barrier to participation in sports activities, and 33% felt that the lack of professional guidance was one of the factors preventing them from actively participating in sports.

From the data, we can see that the lack of professional guidance and the impact of sports this factor is responsible for a relatively large part of the population's health needs and the popularization of scientific fitness awareness, simple "running" "jumping" could not meet the part of the exercise needs of fitness enthusiasts, more and more people are looking for professional guidance, and more and more people are looking for professional guidance. More and more people

are striving for professional, scientific and effective fitness. And because everyone's physical conditions and physical condition are different, this time you need a professional instructor for specific guidance.

### **2.2.2. Interview Method**

The interview method is used to communicate directly with the interviewee face-to-face and to understand the interviewee's true thoughts and feelings. Its main advantages are that it can help us to effectively gather information and better understand the interviewee's behaviors and opinions. Therefore, the interview method is usually used as a way or method for a researcher to communicate with interviewees and help us discover some unknown information, experience and knowledge. The interview method is categorized into oral interviews, written interviews and internet interviews. Oral interviews are used in this study. Their advantages are that in-depth interviews can be conducted and the interviewees' ideas, opinions and knowledge can be better captured; however, the disadvantages are that they take more time, consume more manpower, and sometimes it is difficult to explore the interviewees in depth due to the lack of material. The biggest advantage, however, is that the data can be collected and analyzed on a large scale and over a long period of time.

We randomly interviewed 125 students at the university in our region, first stated our intention, and only after the consent of the other party to conduct the interview, through the interview outline prepared in advance to allow students to answer, and in the form of video and text to record the results of the interview, and go back to the video to verify the accuracy of the text recording, and finally confirm that there are no errors before being analyzed as the final results.

The interviews mainly focused on the problems of campus sports, that is, the shortcomings in the management of sports competitions and courses, such as the failure to release schedules in time, the lack of communication between faculties, and the complexity of the registration process, which makes it difficult for students to participate in intramural sports competitions; the campus course offerings are not rich enough, and teachers are unable to provide students with a complete and systematic knowledge of sports and training on a continuous basis.

## **3. Problems with Sports on Campus**

### **3.1. Redundancy in the registration process for sports competitions and untimely communication of information.**

Intramural sports events are organized by all departments, the submission of entry forms, scheduling of games, announcement of results and tallying of scores all have to be submitted at a certain point, which greatly increases the workload of organizers and may cause some information about participants to be omitted, while at the same time many students will miss the opportunity due to lack of notification, resulting in a great waste of resources, manpower and time, and increasing the slowness of the competition. In the face of unexpected circumstances, it is impossible to notify all participants in time, which will affect the progress of the competition.

### **3.2. Lack of communication between teachers and students, ambiguity about the flow of the event.**

College students often lack professional guidance when practicing on their own after school, which can lead to physical injury. Teachers are not able to consistently provide students with a complete and systematic knowledge of sports and exercise. Teachers are also unable to provide

students with immediate answers when they encounter problems with sports training in their lives. Traditional event notes usually use large paragraphs of text to describe the event, making it difficult for students to grasp the key points or even unclear what they need to do for the event, causing them to lose interest in participating.

### **3.3. Insufficient time for students to play sports and poor organization of the content of sports competitions.**

Currently, students in general are overly dependent on electronic products and lack physical activity. Although the physical education program in the college is rich and diversified, the hours of physical education still do not meet the standard of physical training to strengthen the body, which cannot significantly help students improve their physical quality. The content of sports competitions is inappropriate and contradicts the popularity of sports[3] characteristics. The survey found that the competitive nature of the general sports competition is too strong, it is difficult to achieve the purpose of the exercise, cannot ensure that most students participate, not to mention the full mobilization of students' enthusiasm.

## **4. Introduction of "Sports Link+"**

In order to solve the above problems and meet the actual needs of teachers and students, the school's physical education department has introduced a series of information management systems using computer technology to realize the "Sports Link+". With the continuous development of mobile Internet, Chinese education is gradually moving towards informatization and digitalization. Through the "Internet + Sports" mode, an integrated platform for sports competitions, sports courses and other services for athletes is created, which is of great help and convenience to the healthy life of college students. In addition, the platform provides students with the opportunity to experience competition and cooperation and develop their leadership and teamwork skills.

The "Sports Link+" integrated platform for college sports includes three sections: Home, Events and Me. The "Home" section shows the recent successes of some clubs and the organization of major sporting events inside and outside the college, while the "Events" section mainly contains upcoming sporting events. The "Tournaments" section mainly contains previews of upcoming tournaments, registrations, live broadcasts and notifications, etc. The "My" section contains the contents of the selected sports courses, online communication with teachers and online submission of assignments, etc. The platform has three sections: Home, Tournaments and Me. The platform also includes a section for teaching sports that are not part of the school sports program, with text explanations that inform students about what they need to pay attention to when playing sports in order to avoid injuries. Using the platform will increase students' interest in sports competitions [4], and they will be interested in participating in them. Through long-term sports, they can also exchange their gold coins for some peripheral equipment, which will help them improve their physical fitness and physical functions. "Sports Link+" can also integrate the release and registration of sports competitions, facilitate students to participate in sports competitions, and simplify the registration data collection by the organizer. Subsequently, the system automatically ensures the formation of competition teams to make the competitions more orderly and facilitate the development of sports competitions.

## **5. The Platform's Foundations and Conditions**

### **5.1. Platform Design and Development**

Campus sports comprehensive platform needs Android and Apple IOS dual version of the platform, which is written in Java language, using My-eclipse as the development tool, and JSP+JavaScript for the system provides a strong technical support, with a clear structure and easy to use MySQL database, which can be very good to meet the development needs of the system. After the development of the platform is completed, it should be tested by the testers. The test usually adopts simulated real machine test, and it will be launched after there are no obvious bug.

### **5.2. Easy Operation**

During the design process, we tried to make it as easy as possible for users to operate the program, so that users do not need to be trained deliberately and are easy to accept. When new competitions is held, there are also many students who miss the competition because they have not been notified in time. Every time a new competition is held, many students miss the chance because they are not informed in time. Pop-up reminders are added to this platform, which is more convenient for students to keep abreast of the latest news and the project management is more standardized.

### **5.3. Meet the Real Needs of Teachers and Students**

Meeting the actual demand is the premise and foundation of successfully developing the comprehensive school sports platform. Each event, because of the category, scale, management structure, management habits and the host clubs of the differences in the registration system required, will also be different. The specific registration system functions should be based on the different needs of each project, different characteristics to determine, cannot be generalized.

### **5.4. Resource Sharing**

"Sports Link+" can provide students with rich and diverse resources and diverse reading modes. While sharing resources, it can also strengthen the integration and management of sports resources, and solve the difficulties of effective communication and interaction among different students in the traditional physical education teaching process. There are a large number of teaching videos and documents on the platform. Teachers can provide students with various teaching documents and materials for their reference and use, and students can express their views in the discussion forum according to their own actual situation.

## **6. Development Significance of the "Sports Link+" APP**

### **6.1. Making Interscholastic Athletic Competition more Procedural and Standardized**

The platform will provide detailed tournament descriptions and schedules, and contact each student through pop-up messages when tournaments is released, so that students will understand the tournaments and have more time to actively prepare for the competition. At the same time, a special exchange page will be set up to directly answer students' questions. And a change in registration by the class to the faculty, the faculty to the sports department of the complex process. Students want to register, through the APP registration portal can be registered, such as the game needs to screen personnel, you can notify the students through the list of time and place of screening, and then by

the notification of the form of the list, not only convenient for the students to facilitate more convenient to the organizer of statistics and verification. Finally, on the day of the game, a pop-up window will remind students that they can watch the live broadcast online. Students who are not at the scene can also watch the game from afar.

## **6.2. Make the Instructional Feedback Function more Comprehensive**

The public physical education class in colleges and universities mostly follows the filling education [5], that is, only instilling knowledge in students and completing teaching tasks [6]. This platform is able to collect students' assignments, thus providing objective feedback. When students encounter problems with physical fitness and training when practicing physical education, they can also leave messages to teachers on the Internet and wait for the teacher's answer. At the same time, the interactive chat function can also strengthen the communication between teachers and students, and feedback the problems that students encounter in their study, making teaching more convenient and fast. Teachers can also improve communication with students by assigning homework and urging students to train, so that students can maintain continuous physical activity, improve their sports skills and further strengthen their physique in the course. In terms of tournaments, we can upload a small video to introduce to everyone the form of conducting the tournament and the rules, so that it is simple and easy to understand, so that the general public will have a more comprehensive understanding of the process of the tournament, thus increasing the density of the tournament held.

## **6.3. Making Interscholastic Athletics more Scientifically Based**

Our platform is equipped with teaching videos of physical education courses, which can arrange the advanced learning of the courses according to the difficulty and proficiency in the courses. In addition to indicating the matters needing attention in physical exercise, students can choose video courses for learning and training according to their own conditions, and they can also check their own teaching video repeatedly to urge their physical exercise and course learning. You can also choose different exercise courses according to your personal preferences, such as: losing weight, shaping, running, yoga classes and so on. At the same time, we need to strengthen the training and management of teachers, so as to improve their professional quality and teaching ability, and provide better support and help for students in physical education. We have also designed a reward mechanism whereby students can earn gold coins to exchange for corresponding peripheral rewards by exercising with the coaches in the videos, reaching the corresponding exercise hours, and recording and uploading their own learning videos.

The main body of school sports competition is students, so we should fully respect students' personality characteristics and interests. Creating "interest groups" with a common spirit and goals can provide students with the opportunity to choose topics independently, give full play to their imagination and creativity, and emphasize the cultivation of students' thinking and innovation abilities.

## **6.4. Making Student Sports more Active and Interesting**

This study also aims to cultivate students' motivation towards sports, and only students who love sports can continue. A richer variety of sports would attract more students to participate. The concept of "Sports China Dream" requires students to cultivate their physical functions and make lifelong training and lifelong sports their growth goal, which in turn improves the motivation of college students to play sports. At the same time, the schedule and registration channels of school

sports events can also be viewed online, which can stimulate students' sports enthusiasm and interest, improve the attention of the competition, make students actively participate in sports, change from being forced to take the initiative, and form sports habits and sports consciousness in continuous sports. Through various forms of aerobic exercise and anaerobic exercise, students can improve their physical fitness in an all-round way, which can enhance their interest in sports and increase their appeal to college students to a great extent.

## 7. Conclusions

The health of young people has become a very important problem for the whole society. At present, the physical fitness of students in colleges and universities is generally on the low side. Therefore, strengthening students' physical fitness is the focus of physical education in colleges and universities. Through the comprehensive platform of campus sports, these problems have been greatly reduced, and the computer can effectively deal with these problems and scientifically and accurately manage competition information. Through the school sports competition APP, you can complete the functions of school competition registration, competition watching, competition announcement, score processing, curriculum management, teacher feedback and so on. Thereby saving time and effort. It not only provides technical support for the competitions of various sports festivals, but also reduces the time and energy of each organizer, stimulates college students' sports enthusiasm and further improves their physical fitness.

## Acknowledgements

Liaoning Institute of Science and Technology College Students' Innovation and Entrepreneurship Training Plan "Sports Link+2.0" Campus Sports Comprehensive Platform (project number: 202411430116) and the phased research results of Liaoning Sports and Aesthetics Infiltration Action Plan in 2023.

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