

Research on the Practical Path of Sports Social Platforms to Promote Students' Sports Participation in Colleges and Universities

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Abstract

There are problems of low frequency, weak persistence and insufficient initiative in sports participation of college students, which are significantly different from the policy requirements. This paper takes college students in Zhaoqing City as the research object, analyzes the current situation of their sports participation through questionnaire survey and field observation, and explores the promotion mechanism and practice path of sports social platform. The study finds that local students' sports behavior is characterized by "low frequency and short duration", and the selection of sports is concentrated on popular types such as running and basketball, and there is an obvious gap between participation inside and outside the classroom. The sports social platform can play a role through the four mechanisms of education synergy, behavioral constraints, motivation, and resource integration, and in practice, it is necessary to promote the integration of the platform with the physical education curriculum, build a campus sports community ecology, optimize the incentive system, and integrate sports resources. The study provides practical references for improving students' sports participation in colleges and universities, and helps to promote the deep integration of technology application and campus sports ecology.

Keywords

Sports socialization platforms; College students; Sports participation; Practice pathways

1. Introduction

The problems of "low frequency, weak continuity, and insufficient initiative" in the sports participation of college students have become the bottleneck that restricts the improvement of youth's physical fitness. The Ministry of Education's "Opinions on Comprehensively Strengthening and Improving School Sports Work in the New Era" in 2020 explicitly proposed "improving the sports competition

system” , and the “National Fitness Program (2021-2025)” also emphasized “promoting the healthy development of young people” , but in reality, more than 60% of students participate in sports. The National Fitness Program (2021-2025) also emphasizes “promoting the healthy development of youth” , but in reality, over 60% of students have difficulty exercising regularly due to academic pressure, and more than 40% feel confused in sports due to the lack of scientific guidance, which is a significant gap with the policy requirements. It is worth noting that the popularity of sports social platforms has continued to rise among youth groups, and the acceptance of such platforms by students in colleges and universities in Zhaoqing has continued to increase, and their functions, such as data tracking and community interaction, provide new possibilities for cracking the sports participation dilemma. From the theoretical level, the exploration of this field helps to deepen the knowledge of the mechanism of “technology-enabled sports behavior” . Some studies have shown that social sharing and competition can effectively enhance the sense of sport efficacy of adolescents (Sun Hao et al., 2024), which provides empirical support for the design of platform functions; real-time interaction can enhance the autonomy of sport, but the existing research focuses on a single function, and there is still room to explore the synergistic effect of “platform-curriculum-resources” in the campus scenario (Li et al., 2020). There is still room for further exploration of the synergistic effect of “platform-course-resource” in campus scenarios (Li et al., 2020). Therefore, this study takes the students of Zhaoqing University as the research object, and constructs the research framework of “status quo - mechanism - path” through questionnaire survey and field observation. Combined with the theory of self-determination, the study will analyze the logic of the influence of sports social platforms on students' motivation and explore its interface with local sports policies, aiming to provide practical references to enhance the sports participation of students in universities in Zhaoqing and to promote the in-depth integration of the application of technology and the campus sports ecology.

2. Current Situation of College Students' Sports Participation in Colleges and Universities in Zhaoqing

2.1. Characteristics of Participation Behavior

Table 1. Distribution of characteristics of sports participation behavior of college students in Zhaoqing (n=800)

Classification of indicators	Specific dimensions	Number of people	Percentage (%)
Weekly frequency of exercise	1-2 times	464	58
	3-4 times	176	22
	5 or more	80	10
	Almost no exercise	80	10
Single exercise duration	<30 minutes	120	15
	30-60 minutes	520	65

	>60 minutes	160	20
Main Exercise Time Periods	Morning (6:00-8:00)	88	11
	Afternoon (12:00-14:00)	56	7
	Evening (17:00-19:00)	560	70
	Night (after 19:00)	96	12

From the data in Table 1, it can be seen that the sports participation behavior of college students in Zhaoqing City presents the distinctive characteristics of “low-frequency, short duration and time concentration”. In terms of exercise frequency, 464 students, or 58%, exercise only 1-2 times a week, while only 80 students, or 10%, exercise regularly 5 times a week or more, and another 80 students, or 10%, do not participate in sports at all. This indicates that most students have not yet developed a stable exercise habit. Behind this low-frequency phenomenon, academic pressure is the main driving force. In the interview, 46.3% of the students confessed that “the curriculum is too full, so it is difficult to exercise on a regular basis”. As for the duration of single exercise, the medium duration of 30-60 minutes was the most common, with 520 participants, accounting for 65%; however, only 160 participants, accounting for 20%, were able to stick to it for more than one hour. This means that “fragmented exercise” has become a common phenomenon. This is closely related to the characteristics of college students' time allocation: the fragmented time between classes and after classes can hardly support long-time exercise, coupled with the general cognition that “exercise will delay study”, which further compresses the length of exercise. In terms of time selection, 17:00-19:00 in the evening was the absolute peak, with 560 people concentrating on exercise at this time, accounting for 70% of the total; while the combined participation rate in the morning and afternoon was less than 20%. This concentration of time is on the one hand closely related to the schedule of courses, most of the afternoon courses in colleges and universities end before 16:30, students have continuous free time; on the other hand, it is also subject to the constraints of venue resources: the temperature is suitable in the evening, and there are no courses occupying the venues, which leads to students piling up and choosing this time, and indirectly exacerbates the venue congestion. In the interviews, about 32.5% of the students mentioned that they “want to play sports but have no space”. On the whole, students' participation in sports is still relatively passive, and their sense of independent planning is obviously insufficient.

2.2. Project selection preferences

Table 2. Preferences of sports program selection of college students in Zhaoqing (n=800)

Sports	Number of male students (n=400)	Percentage (%)	Number of female students	Percentage (%)	Total number of people	Percentage (%)
Running	180	45	180	45	360	45
Basketball	168	42	8	2	176	22
Badminton	56	14	96	24	152	19
Walking	32	8	64	16	96	12
Yoga	4	1	36	9	40	5
Soccer	40	10	0	0	40	5
Swimming	16	4	16	4	32	4

From Table 2, it can be seen that Zhaoqing college students' choice of sports is clearly characterized by “mass domination and gender differentiation”. On the whole, running, basketball, badminton, and walking, the total number of participants reached 784, accounting for 98%; among them, running became the absolute mainstream with 360 people (45%). Behind this, “low threshold, easy to carry out” is the core consideration when people choose the program. This kind of program does not require high requirements for venues and equipment, and does not require any professional skills, which is just suitable for the needs of college students who “can move when they want to move”. In the interviews, 67.2% of the students said “I can start running anytime, I don't need to wait for others”, which is a reflection of this mentality. Gender differences are particularly evident in program selection: among male students, 42% (168) would choose basketball, which is much higher than the 2% (8) of female students; whereas female students are more inclined to low-confrontation programs, with higher participation rates in badminton (24%), walking (16%), and yoga (9%). This division is both related to sports preferences and influenced by social circles. Boys often use “dating” to maintain their relationships, while girls prefer ‘walking’ and “yoga” as easy interactions. It is worth noting that the participation rate of team-based programs is not high, such as soccer, which accounts for only 5% (40 people) of the total, mainly because of “not being able to get all the people together” and “the rules are too complicated”, so it can be seen that when choosing a program, the priority is to “facilitate and save time”. This shows that when people choose a sport, “convenience and saving time” is a priority. Like swimming such skillful projects, the participation rate is only 4%, in addition to the need for certain skills, site limitations is an important reason: most colleges and universities in Zhaoqing City, there is only one swimming pool, the opening time is often conflicting with the curriculum, about 41% of the students bluntly said that they “want to go to learn, but there is no opportunity”. In general, students choose the program a little “follow the others” tendency, most of them will choose the people around them often participate in the initiative to try a new sport is not enough motivation.

2.3. Participation Scene Distribution

Table 3. Distribution of sports participation scenarios among college students in Zhaoqing (n=800)

Scenario Categories	Specific dimensions	Number of people	Percentage (%)
Sports Occurrence Scenarios	Physical education in-class (passive participation)	560	70
	Active participation outside of class	224	28
	No fixed scenarios	16	2
Main sports venues	Athletic field/basketball court (free)	496	62
	Gymnasium/swimming pool (fee-based)	120	15
	Off-campus venues	184	23
Use of online tools	Athletic social media platforms to record/meet a partner	96	12
	Timing/counting steps on cell phone only	320	40
	Wireless on-tool use	384	48

From the data in Table 3, it is obvious that the sports participation of students in Zhaoqing colleges and universities is characterized by “internal and external disconnection and online lag”. In the sports scene, 70% of the students (560) only participate in sports in physical education classes, mostly passively to fulfill the teaching requirements; while only 224 students, or 28%, take the initiative to exercise outside the classroom. This “hot in class, cold out of class” disconnect is directly related to the physical education program evaluation system. Most colleges and universities only look at the performance of physical education courses, and there is a lack of incentives for extracurricular sports, resulting in students “coping in class and stopping after class”. In the interviews, 58.7% of the students confessed that they do not exercise without physical education classes. In terms of venue selection, students obviously tend to “low-cost”: 62% of students (496) will choose free open track and field, basketball court, and only 120 students (15%) use paid venues. This is not only related to the spending power of college students, but also affected by the management mode of the venue. Some college gyms charge per visit (10-20 RMB/visit), which exceeds students' expectation of daily expenses; coupled with the “cumbersome booking process”, it further reduces their willingness to use. Off-campus venues accounted for 23% (184 students), mainly concentrated in the parks and trails around the school, which is actually a helpless choice when on-campus venues are insufficient. The degree of use of online tools is low: only 12% (96 students) will use sports social platforms to record or ask for a partner, and 48% (384 students) rely entirely on offline. This is related to students' usage habits. Most of them feel that there is no need to punch cards for exercise; more importantly, the existing platforms lack campus-specific functions, such as “on-campus venue booking”, “matching with classmates” and other practical functions, making the platforms not useful enough. More importantly, the existing platform lacks campus-specific functions, such as “on-campus venue reservation” and “classmate matching”. About 63.5% of students said that they would be more willing to use the platform if they could get a date with their classmates on the same campus, which shows that the adaptability of online tools and campus scenar-

ios still needs to be improved.

3. Mechanisms of action of sport socialization platforms for sport participation

3.1. Educational synergies

The sports social platform extends and complements the physical education scene by building a synergistic model of “online guidance + offline practice”. The key is to integrate fragmented sports knowledge into systematic teaching content, forming a multi-level education closed loop (see Figure 1). According to the user's sports foundation, the platform will algorithmically push step-by-step courses, such as introductory action demonstrations and advanced training programs, so as to solve the problem of “uniform progress and difficulty in adapting to individual differences” in traditional teaching. At the same time, the platform is embedded with exercise physiology knowledge cards, such as the interpretation of heart rate zones, fatigue recovery programs, etc., which have been transformed into easy-to-understand and easy-to-operate action guidelines. This model not only fills the short board of limited class time in offline sports classes, but also enhances the learning effect through “instant feedback - error correction and improvement”: after uploading the sports video, users can receive AI action analysis or coaching comments, so that the skills enhancement from “one-time guidance in the classroom” to “daily guidance”. This enables skill enhancement from “one-time instruction in the classroom” to “daily accurate correction”, thus forming an organic echo with campus sports teaching.

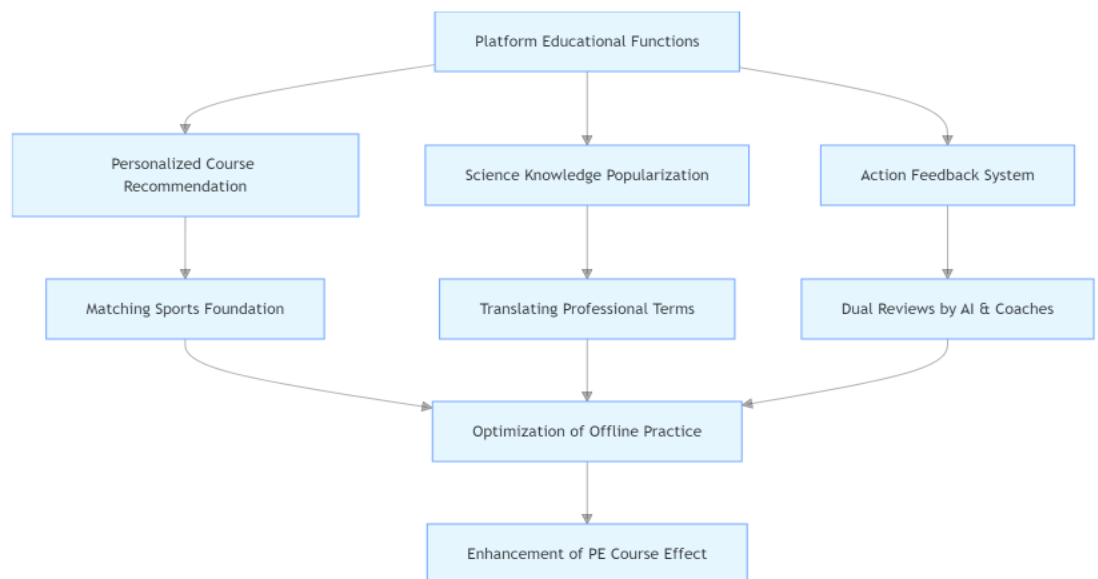


Figure 1. Logical framework for educational synergy mechanisms

3.2. Behavioral constraints

With the three-dimensional constraints of “goal-data-social”, the sports social platform builds a solid closed loop of sports behavior (see Figure 2). After users set exercise goals, the system automatically breaks them down into specific tasks that can be accomplished every day, and pushes reminders synchronously, so that long-term plans can be put into practice in daily actions. When exercising, the platform records real-time data such as trajectory and duration, and generates a visualized progress board. For example, the dynamic bar of “75% completion this week” transforms the original abstract goal into visible results, allowing users to clearly perceive their progress. The overlay of social constraints is particularly important: users can choose to publicize their goals, and their friends' lists will be dynamically updated with each other's accomplishments; when they don't reach their goals, the platform will send gentle reminders, such as “Your sports partner has completed the plan today”, to reduce inertia through inter-group influence. This mechanism slowly promotes the transformation of exercise behavior, from occasional to regular and persistent habits, so that the situation of “three days fishing and two days sunning the net” is less and less.



Figure 2. Closed-loop model of behavioral constraints

3.3. Motivational stimulation mechanisms

By satisfying different levels of psychological needs, sports social platforms can effectively stimulate the motivation to keep on exercising, forming a dual-wheel drive model of “intrinsic motivation + extrinsic incentive” (see Figure 3). The intrinsic level focuses on satisfying the needs for autonomy and competence: users can choose their own exercise programs, schedule time and intensity, reinforcing the sense of control of “arranging their own exercise”; unlocking achievement badges after completing a challenge, such as “Morning Runner”, “Stretch Master”, “Stretch Master”, “Stretch Master”, “Stretch Master”, “Stretch Master”, “Stretch Master”, “Stretch Master”, “Stretch Master”, and so on, Achievement badges unlocked upon completion of the challenge, such as “Morning Runner” and “Stretching Master”, can bring recognition of competence and satisfy the psychological expectation of “self-realization”. On the external level, social relations are used: the likes and comments received from sharing sports news, and the ranking of winners and losers in team PK, make sports a social way to satisfy the sense of belonging and gain the respect of others. This mechanism is especially suitable for the characteristics of college students. The chain from “sports performance” to “social feedback” to “self-efficacy enhancement” can turn “passive

to cope with physical testing. The chain from “sports performance” to “social feedback” to “self-efficacy improvement” can turn “passively coping with the physical test” into “actively presenting oneself”, and fundamentally improve the problem of insufficient participation initiative.

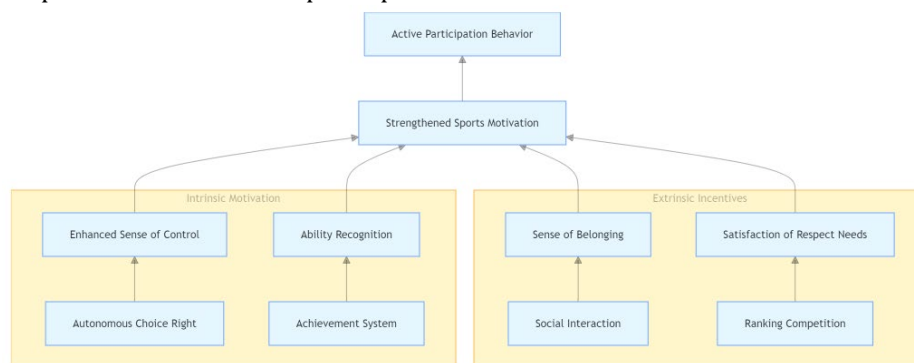


Figure 3. Motivational excitation mechanism mental path

3.4. Resource integration mechanisms

With the help of digital means, the sports social platform breaks through the temporal and spatial limitations of sports resources, and integrates venues, companions and events into one resource pool (see Figure 4). In terms of venues, the platform summarizes the information of colleges and universities and the surrounding sports venues, updates the opening hours and the degree of congestion in real time, and provides the function of “staggered booking”. For example, it displays “18:00-20:00 venues are tight, we recommend choosing 16:00-17:30”, effectively alleviating the problem of “not being able to grab a venue” during peak hours. When looking for companions, the platform will intelligently match according to sports preferences, level and geographic location, such as recommending runners of the same level in the same school for novices who like night running, which solves the problem of “it is difficult to find people to exercise together”, and slowly forms a stable sports community. In terms of competitions, traditional campus competitions (e.g., faculty basketball matches) and online challenges (e.g., “30-day rope skipping card”) are combined, with no need to go to the site for registration, and online submission of scores, which greatly lowers the threshold for participation. This kind of integration not only makes resources used more efficiently, but also makes the campus sports ecosystem more dynamic by connecting scattered individual sports into organized group activities through the mode of “convening online and meeting offline”.

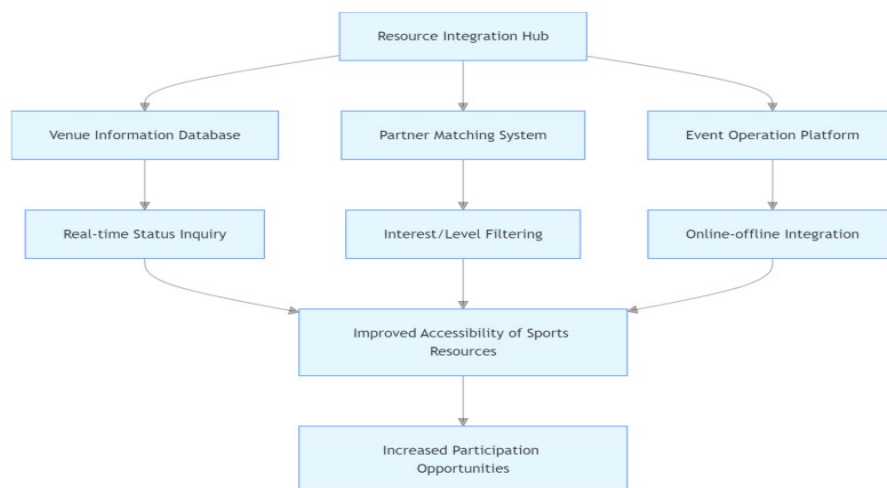


Figure 4. Functional architecture of the resource integration mechanism

4. Practical Paths of Sports Social Platforms to Promote Students' Sports Participation in Colleges and Universities

4.1. Promoting the Integration of Platforms and Sports Courses

The key to the integration of the platform with the physical education curriculum is to build a closed-loop teaching process of “online preview - classroom practice - after-class consolidation”. Before class, the platform will push the course-related skills analysis video, such as basketball dribbling center of gravity control, yoga breathing method, etc., also with knowledge quiz small challenge, to help students familiarize with the key points of teaching in advance, so that the classroom time can be more focused on the actual operation of the guidance. In the classroom, the platform's data tools can come in handy: through the smart bracelet synchronization of students' heart rate, movement trajectory and other information, the teacher can adjust the training intensity in real time, to avoid the situation of “a standard teaching to the end”. The arrangement after class is also very important: the platform will arrange exclusive assignments, such as allowing students to upload three independent practice video, the teacher pointed out the problem with the marking function; at the same time, the number of times outside the class clock (no less than 2 times a week) into the usual results (accounting for 20% -30%), changing the past “practice in class, forget about it” of the The disconnected state of “practicing in class and forgetting after class” in the past has been changed. In addition, we can also design course-specific sports challenges, such as the “Taijiquan 24-form punch card challenge”, in which students can unlock the course expansion resources after completing the record of coherent movements, which not only extends the course content, but also increases the fun of learning.

4.2. Building Campus Sports Community Ecology

Campus sports community can build a three-level structure of “class-program-intercollegiate” to accurately match the sports needs of different levels. The class community is based on administrative classes, and the platform will automatically generate a sports data board, clearly displaying members' weekly exercise hours, participation programs and other information. Counselors can initiate a “Class Exercise Week” to stimulate collective participation in the form of accumulated mileage PK. The program community is divided according to the types of sports, such as running club, street dance club, etc., and there are sections such as “President's Recommendation”, “Newcomer's Introduction”, “Advanced Tips”, and so on. Members can share training tips and initiate training appointments, and the platform will also recommend partners with similar levels through algorithms to address the concern that “novices are afraid to join”. The intercollegiate community will link up with many colleges and universities in the region to regularly organize cross-college online challenges, such as the “Three Schools Joint Riding Card”, and open the live streaming of the event and the ranking function to help students broaden their social circle. In addition, the platform should be embedded with practical community management tools, such as automatic statistics on activity attendance and monthly community reports, so that organizers can optimize the design of activities and make the community more cohesive.

4.3. Optimize the design of the platform incentive system

The design of the incentive system should balance the relationship between “immediate feedback” and “long-term goals”. The basic level adopts a ladder-type achievement medal design, which can unlock the “Sprout” medal after completing the first exercise, and the “Endurance Pioneer” title after accumulating 100 kilometers of exercise, which can be directly exchanged for discounts in campus supermarkets, coupons for sports stores and other physical benefits. These medals can be directly exchanged for discounts at campus supermarkets, coupons for sports shops and other benefits, so that the payment can be quickly transformed into visible returns. The advanced level introduces the “Sports Growth Tree” system, in which the virtual tree will grow and bear fruits for every week of regular exercise, and the fruits can be exchanged for offline services such as free physical fitness testing and one-on-one guidance from coaches, so as to guide long-term adherence with a sense of accomplishment accumulated over a long period of time. The social dimension sets up the “Friends Mutual Aid Program”, which allows users to initiate an invitation to their friends to supervise the exercise, and both parties can get extra points by punching the card together for 7 consecutive days, so as to strengthen the tenacity of the action with the help of companions' power. For low-frequency users, the “return package” is specially configured: users who have not logged in for a month will receive a “3-day exercise challenge” invitation, and after completion, they can obtain a customized electronic certificate to al-

leviate the psychological pressure of re-participation. In addition, the incentive strength should be dynamically adjusted with the nodes, and the rewards should be appropriately increased at the beginning of the semester, the physical testing season and other key periods to avoid the enthusiasm for participation fading due to the solidification of the model.

4.4. Integration of Campus Sports Resources

The core of resource integration is to eliminate the information barriers between “venues, coaches and events”, so that students can easily obtain all kinds of sports support. In terms of venues, the platform is connected to the campus gymnasium management system, updating in real time the availability of each venue and the number of people who have made reservations, supporting one-click booking as well as intelligently initiating the invitation to play together, for example, when there is one badminton court left, it will automatically push an invitation to nearby users to play together with two people to improve the efficiency of venue use. As for coaching resources, the platform summarizes the information of on-campus physical education teachers and off-campus professional coaches, and opens an “online consulting” area, where students can consult on sports injury recovery, training plan development, etc., and can screen coaches and book offline guidance according to the project, which solves the problem of “wanting to practice without a teacher”. This solves the problem of “wanting to practice without a teacher”. In terms of tournament resources, the company has established a campus tournament database that includes class games, school games, and club cups, and provides registration entrances, tournament reminders, and results query services; at the same time, it has also developed a “personal tournament calendar” that pushes out suitable tournaments according to users' program preferences, so as to avoid missing out on the activities they are interested in. In addition, the company has launched a “sports resource package” with neighboring merchants, offering gym discounts and sports equipment rental discounts based on the platform's sports records, which extends the scope of services and effectively reduces the cost of sports for students.

5. Conclusions and Recommendations

By examining the problems of low frequency, single project, and scene disconnection in college students' sports participation, the sports social platform, on the other hand, provides new ideas to solve these problems through the fourfold mechanism of educational synergy, behavioral constraints, motivational stimulation, and resource integration. The study shows that the deep integration of the platform with the sports curriculum can break the division between inside and outside the classroom; the three-tier community ecology can enhance the viscosity of participation; the stepped motivation system can effectively enhance the initiative; and the re-

source integration can alleviate the contradiction of the insufficient supply of venues, coaches, and so on. Based on this, it is suggested that colleges and universities should accelerate the docking between the platform and the sports teaching system, and incorporate extracurricular sports data into the academic evaluation; the platform should optimize the campus-specific functions and enhance the adaptability of the scene; and the education management department should introduce complementary policies to support the cooperation between schools and enterprises in the development of localized sports resources. By building a virtuous cycle of “technology empowerment + institutional guarantee + group participation”, the university sports ecology will be transformed from “passive coping” to “active participation”.

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