Retraction

Retracted: Integration and Application of Online Sports Resources Based on Multidimensional Intelligent Technology and Resource Optimization Architecture

Journal of Advanced Transportation

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope

(2) Discrepancies in the description of the research reported

(3) Discrepancies between the availability of data and the research described

(4) Inappropriate citations

(5) Incoherent, meaningless and/or irrelevant content included in the article

(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] T. Chu, "Integration and Application of Online Sports Resources Based on Multidimensional Intelligent Technology and Resource Optimization Architecture," *Journal of Advanced Transportation*, vol. 2022, Article ID 2333497, 9 pages, 2022.

WILEY | Hindawi

Research Article

Integration and Application of Online Sports Resources Based on Multidimensional Intelligent Technology and Resource Optimization Architecture

Ting Chu [1,2]

^{1}*Haikou University of Economics New Silk Road Fashion Sports Institute, Haikou 571127, China*
^{2}*Shanxi Vocational University of Engineering Science and Technology, Jinzhong 030619, China*

Correspondence should be addressed to Ting Chu; chuting@sxgkd.edu.cn

Share the relevant factors of the overall structure of the sports network in colleges and universities, and divide the overall structure of its operation system. In view of the unequal division of educational resources, this paper proposes the construction content of the college sports network education resource sharing mechanism: the construction of college sports network education resources, the college sports network education resource sharing platform, and the management and coordination of college network education resources sharing. In the guidance of cybernetics based on the basic characteristics of network education resources, the sharing of sports network education resources is realized, so as to effectively build a scientific evaluation index system.

1. Introduction

With the development of computer technology and network communication technology, the network has become the main channel for most people to obtain information in their study and life, and network teaching has gradually become a modern education tool that responds to the development of the times and society [1]. Based on the powerful information dissemination ability, excellent resource sharing performance, advanced two-way interaction and multimedia technology of computer network, modern distance education can provide rich teaching resources and flexible teaching forms for teaching, improve students' learning initiative and flexibility, and facilitate individualized teaching and learning [2]. In view of the contradiction of physical education courses in terms of space and learning and training, the reform of physical education in colleges and universities should make full use of the advantages of modern distance education, integrate course resources, expand teaching time and space, and enrich teaching methods, so that physical education can meet the requirements of social development.

Modern distance education refers to the form of education in which students and teachers, and students and educational institutions are linked by distance education system teaching and communication mainly using multiple media means [3]. It is a new form of education that occurs with the development of modern information technology and is the main means of constructing people's lifelong learning system in the era of knowledge economy [4]. In China, there have been traditional one-way distance education teaching forms such as television video teaching, electric university, and correspondence course, which have limited learning time and space, and the teaching media are used as presentation tools rather than cognitive tools and cannot realize interactive and independent learning [5]. Modern distance education is a new two-way interactive education mode formed with the development of multimedia technology, network, and communication technology, which is the main means to build people's lifelong learning system in the era of knowledge economy, with the adaptability of time and space and the openness and interactivity of education way and enriches the teaching content, increases students' interest in learning and self-

motivation, expands the knowledge, can cultivate students' ability to work in science and technology, can provide timely feedback, and to a large extent solves the problem of optimal combination of cross-regional teacher distribution [6, 7]. It takes advantage of the advanced communication network to transmit information, it can realize interactive and independent learning across time and space [8]. Modern distance education is a major project to make full use of and optimize China's educational resources, popularize and improve the quality of education, form an open education network, and build a lifelong learning system [9].

Modern distance education can disseminate information in large capacity, high speed, and wide range, and with the help of multimedia technology, it can build rich teaching resources, break the time and space limitation of students' learning, and improve students' autonomy and enthusiasm of learning [10]. For physical education courses, learners can learn various theoretical knowledge and sports skills from the Internet at any time and place, overcoming the influence of venue, time, or climate [11]. At the same time, the problems of difficulty in explaining, understanding, and repeating various body movement techniques involved in physical education can also be solved by collecting the standard movements of sports stars in large sports events through multimedia videos, animations, or websites [12]. The problem can also be solved by using multimedia videos, animations, or websites to collect standard movements of sports stars in major sports events to assist teaching [13].

Network course teaching is the specific embodiment of applying computer network technology to teaching, which is a new teaching mode based on multimedia, computer network, and international Internet, and is teaching that extends the classroom to the campus network and the Internet, so that the resources can be shared throughout the school or even nationwide and globally [14, 15]. If sports distance education can be carried out on the basis of existing sports network course resources, this can solve the learning problem of many people who want to learn but cannot study at school (rural primary and secondary school physical education teachers, social sports workers, athletes, and coaches), and at the same time, the tuition fees of distance education can be used for the subsequent development of the curriculum, thus making the network course resources sustainable [16].

This paper proposes the construction content of the sharing mechanism of college sports network education resources: the construction of college sports network education resources, the sharing platform of college sports network education resources, and the management and coordination of college network education resources sharing.

2. Related Work

Although a large number of educational information resources already exist on the Internet, these resources are in a disorganized state, and therefore, suggestions are made to increase the construction of online educational information resources [17]. In the information-based society, online education is gaining more and more recognition and advantages with its unique mode and distance education has formed a global trend, while online education cooperation and international competition are being strengthened [18]. Some famous distance education systems have already implemented global teaching, and 90% of the colleges and universities in the United States, which is the largest country in the network distance education model, have carried out network program education with the Internet as the main means, and about 3,000 network courses are open to people of different levels, and more than 7,000 people have obtained the corresponding degrees through network courses.

In order to better implement the spirit of the above-mentioned documents, the national school sports workers face the modern information environment, the development and integration of college physical education curriculum resources, physical education teaching methods and models of innovation and physical education network teaching and other aspects of active attempts and exploration [19]. Most of the existing national and provincial and municipal fine sports resources have been networked to a certain extent, but by visiting the national fine course resource network and obtaining the national and provincial fine sports courses included in it, we found that the number of sports professional courses is more than that of university sports courses, and the teaching resources of national fine courses are more networked than that of provincial fine courses [20]. The network is larger than that of provincial and municipal level. The network platform construction for physical education in some national key universities has been paid attention to by universities, and more than 50% of the physical education courses in 211 universities have adopted network teaching to some extent, while few physical education courses in general undergraduate institutions have adopted network teaching. Compared with other disciplines, the level of university physical education network platform is still low, just reaching the level of network-assisted teaching.

3. Definition of Related Concepts

3.1. Educational Resources. Educational resources include the sum of educational knowledge, educational experience, educational skills, educational assets, educational costs, institutions, educational brands, educational personalities, educational concepts, educational facilities, and interpersonal relationships inside and outside the educational field, which have been created and accumulated by human society through the long evolution of civilization and educational practices since the beginning of educational activities and educational history. According to the available information, educational resources were first defined in China as "the financial, human and material resources provided by society for education."

3.2. College Sports Network Education Resources. The concept of college sports network education resources is the core concept of this paper. People usually call the combination of network resources and college education applications as

college network education resources. College network educational resources are also usually expressed as educational information resources, and in daily research, college network educational resources and educational information resources are usually used in place of each other. The definition of college sports network resources in this study refers to the college sports network resources that belong to the category of educational information resources in a narrow sense, that is, the college network educational information resources in the classification of college network education proposed by [12]. According to the requirements of the scope of this paper and their use and existence in physical education, college sports network education resources are roughly divided into nine types, such as physical education media materials, physical education audiovisual teaching materials, physical education multimedia courseware, physical education reading materials, physical education college network courses and high-quality courses, physical education teaching resource library, physical education websites, and college physical education network teaching resource management application platform types.

4. Constructing the Operation System of College Sports Network Education Resources Sharing

The ultimate goal of sharing college sports network education resources is to achieve the sharing of valuable sports network education resources. Through the coordination among all elements, a scientific and reasonable regional college sports network education resources sharing operation system is built to realize the effective operation of the college sports network education resources sharing mechanism in the region.

4.1. Element Composition. The regional university sports network education resource sharing mechanism is a multidisciplinary, complex and open system involving many factors, so it is necessary to establish the main position of users in the sharing from a holistic perspective to meet the users' needs for sports. In order to establish the main position of users in the operation of the sharing mechanism, it is necessary to understand the real needs of users and to build a management and coordination institution with macroscopic control to carry out macroscopic overall planning and coordinated development. The sharing platform, technology, talents, funds, and policies are the guarantee support for sharing. Without support, even the best educational resources and the best management and coordination service mechanism cannot be realized. Therefore, the real demand, sharing platform, management and coordination, guarantee mechanism, and the most basic college sports network education resources constitute the elements of the regional education resources sharing system. Under the guidance of sharing concept, as a complete system, each element is mutually supportive and collaborative and is an indispensable system as a whole. The relationship of each element is shown in Figure 1.
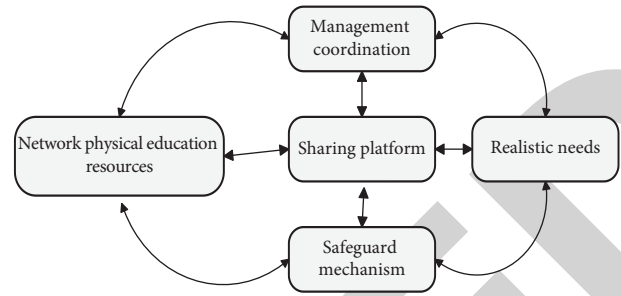

Figure 1: Elements of the operation system of regional university sports network education resource sharing.

4.2. Framework of Operation System. The fundamental purpose of constructing the operation system of regional university sports network education resources sharing is to make full use of the Internet to establish an effective operation mechanism for regional university sports network education resources sharing and to improve the user's ability to know and obtain university sports network education resources.

Based on the purpose of building the sharing operation system, the framework of the sharing operation system must be guided by scientific concepts and provide nontechnical support for other sharing work. The construction of college sports network education resources, which is the object of college sports network education resources sharing, is the focus of the system and the guarantee for the effective operation of the college sports network education resources sharing mechanism. The construction of college sports network education resources platform provides technical support for regional college sports network education resources sharing. At the same time, the management and coordination mechanism is used as an auxiliary tool to manage the construction and sharing process of education resources [21, 22]. The sharing guarantee system is divided into technical support, sharing method, institutional guarantee, sharing mechanism, and sharing price, which provide technical and nontechnical guarantee for effective sharing of resources. The effective incentive mechanism and the effective sharing incentive mechanism as a promotion as shown in Figure 2.

4.3. Architecture Design of Education Resource Library. The college sports network education resource library is mainly a resource library system that provides teaching support for college sports network teaching and promotes teachers' teaching and students' learning and exercise of basic sports knowledge and skills. It is constructed in accordance with the unified technical specifications and the inner logical relationship of the curriculum in accordance with international standards, is composed of excellent digital sports media materials, knowledge materials, and exemplary teaching cases and other basic materials for sports teaching, and is an entity carrying sports education resources and an open sports network teaching support system that can be expanded continuously. Its basic position is to build a network education and database that can meet the needs of
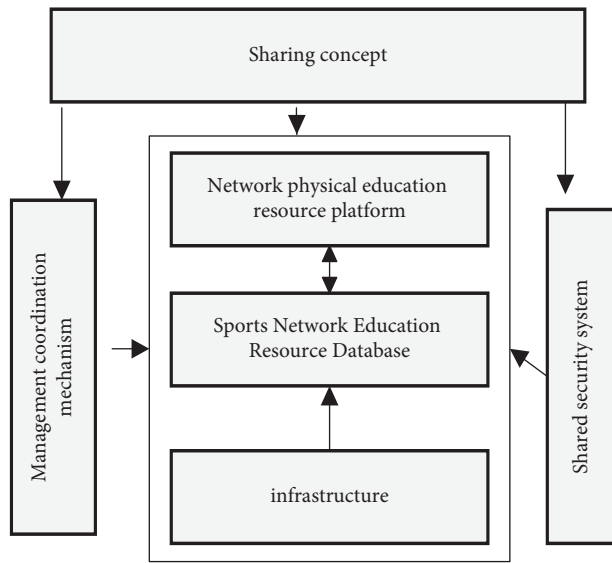
Figure 2: Framework of regional Korakan sports network education resource sharing system.

Figure 3: The architecture of university sports network education resources.

physical education teaching, scientific research, technology development, and teaching management in colleges and universities, to build a knowledge network and knowledge service network, and to provide core physical education network education resources for the physical education network education platform [23]. Its functions include physical education resource collection, resource verification and storage, resource retrieval, and resource browsing and downloading. Based on the basic positioning of the university sports network education resource library and its functions, the architecture structure is shown in Figure 3.

The physical education network education resource management system in colleges and universities is a functional facility for managing, maintaining, and updating the physical education resources stored in the resource library media and is the support system of the network teaching resource library. The resource library management platform realizes scientific and reasonable composition and management of physical education network teaching resource library, which is conducive to the advantages of physical education network teaching resource library and thus to the teaching and learning of physical education in colleges and universities. The teaching and learning management support platform provides a flexible, scalable, interactive teaching and learning support environment suitable for multiple levels, multiple objects, and multiple network environments and supports various teaching modes such as synchronous teaching, asynchronous teaching, teacher-led learning, and students' independent learning and practice [24, 25].

4.4. Education Resource Sharing Platform. The regional university sports network education resources sharing platform is a comprehensive information sharing platform to realize the common construction and sharing of region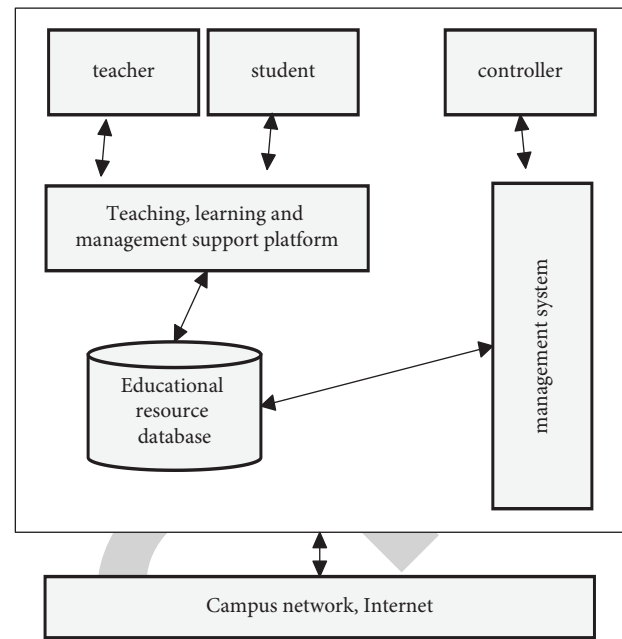al university sports network education resources, so as to promote the unified management of regional sports network education resources, make modern education technology and sports humanities highly combined, and finally realize the regional university sports network education resources. On the basis of full sharing, this platform also has the characteristics of networking, intelligence, and multimedia, and the most applied educational technology is mostly inclined to technology, with less embodiment of human personality, so the platform should follow reasonable design specifications and follow the principles of scalability, practicality, unity, security, and reliability.

The sports network education resource sharing platform is an open platform for human-computer interaction using computers as tools to handle sports venues, sports equipment, sports teaching, and sports library materials. Its most important feature is remote, two-way, real-time, and interactive. The web-based network teaching platform is relatively mature, and according to the requirements followed by the platform development and design, the sports network teaching platform is technically based on a three-layer B/S architecture that combines the ASP-based B/S module structure system with the web database system 3 (Figure 4).

Teaching resource platform, courseware platform, interaction platform, and management platform are the four subsystems of the sports network education resource sharing platform, and each module has its submodules.

(1) Teaching resource platform: it mainly provides a self-help platform for learners to collect, organize, browse, and edit physical education resources, and students can improve physical education resources by themselves through this platform.
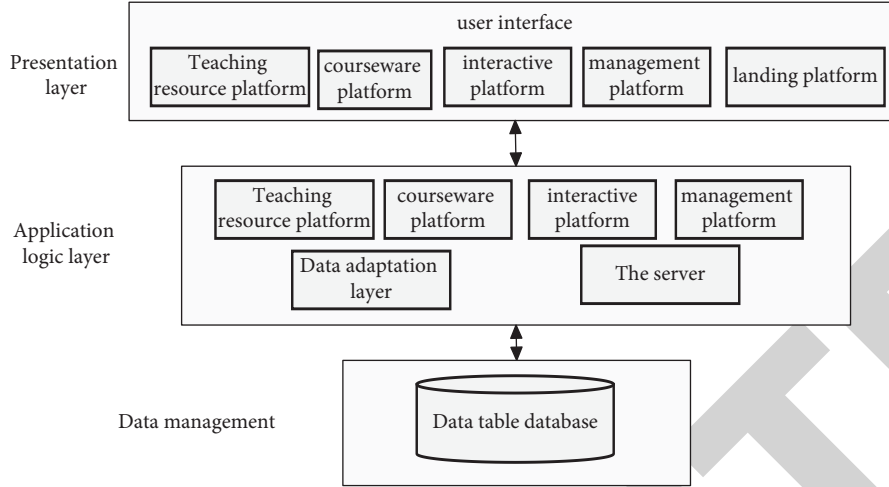
Figure 4: System structure of university sports network education resource sharing platform.

It includes self-help system of general physical education resources, self-help system of multimedia physical education resources, and mutual evaluation system of physical education resources.

(2) Courseware platform: the courseware platform module contains sports network course management system, video system, and examination system.

The module completes the setting of the curriculum and the release of the examination of motor skills mastery.

(3) Interactive platform: it includes two parts: online communication system and question-answer system. Solve the problem of students learning motor skills in the process of interactive platform.

(4) Management platform includes user management system and database management system. The main function of the subsystem is to set up the system as a whole and analyze the data management platform including user management system and database management system.

4.5. Machine Learning Algorithm: Support Vector Machine.
Compared with neural networks and other traditional machine learning algorithms, support vector machines have fewer constraints and no "overfitting" defects, which are very suitable for modeling and prediction of small-sample, nonlinear college sports performance.

Let the sample set of college sports performance be $X = \{(x_1, y_1), (x_2, y_2), \ldots, (x_n, y_n)\}, i = 1, 2, \ldots, n$, and the support vector machine regression is specified as

$$f(x) = w \cdot \phi(x) + b, \tag{1}$$

where w, b are the parameters of the support vector machine.

To build a college sports performance prediction model, the most reasonable values of w, b must be found, and for this purpose, based on the principle of minimizing structural risk, they are transformed into the following form:

$$\min \frac{1}{2}\|w\|^2 + C\frac{1}{k}\sum_{i=1}^{k} \varepsilon(f(x_i) - y_i),$$

$$\text{s.t. } \varepsilon(f(x_i) - y_i),$$

$$= \begin{cases} |f(x_i) - y_i| - \varepsilon, & |w \cdot \phi(x) + b - y_i| \geq \varepsilon, \\ 0, & |w \cdot \phi(x) + b - y_i| < \varepsilon, \end{cases} \tag{2}$$

where ε is the regression error; C is the penalty parameter of the error.

In order to simplify the solution process and reduce the computational complexity of modeling, the relaxation factors $\varepsilon, \varepsilon^*$ are introduced, and the quadratic programming form is obtained as

$$\min_{w,b,\varepsilon,\varepsilon_i} \frac{1}{2}\|w\|^2 + C\sum_{i=1}^{l} (\xi_i + \xi_i^*),$$

$$\text{s.t.} \begin{cases} y_i - w \cdot \phi(x) - b \leq \varepsilon + \xi_i, & \varepsilon_i \geq 0; i = 1, 2, \ldots, n, \\ w \cdot \phi(x) + b - y_i \leq \varepsilon + \xi_i^*, & \varepsilon_i^* \geq 0; i = 1, 2, \ldots, n. \end{cases} \tag{3}$$

Using Lagrange multipliers a_i^*, a_i to further transform (3), we obtain

$$\min_{a^l \in R^2} \frac{1}{2} \sum_{i,j=1}^{n} (a_i^* - a_i)(a_j^* - a_j)k(x_i, x_j) + \varepsilon \sum_{i=1}^{n} (a_i^* + a_i)$$

$$- \sum_{i=1}^{n} y_i(a_i^* - a_i), \tag{4}$$

where $k(x_i, x_j)$ denotes the kernel function.

The regression function of the support vector machine can be described as

$$f(x) = \sum_{i=1}^{n} (a_i - a_i^*)(\phi(X_i), \phi(X)) + b. \tag{5}$$

The RBF function is chosen as the kernel function, which is defined as

$$k(x_i, x_j) = \exp\left(-\frac{\|x_i - x_j\|^2}{2\sigma^2}\right), \tag{6}$$

where σ denotes the parameter of RBF.

4.6. Particle Swarm Algorithm. The current optimal solution of the particle swarm algorithm is *pbest*, the current optimal solution of the population is *gbest*, and the fitness function describing the degree of superiority and inferiority of individual particles is constructed as

$$\text{fitness} = \frac{1}{2N} \sum_{i=1}^{N} \sum_{j=1}^{D} (y_{ij} - t_{ij})^2. \tag{7}$$

x_{id}^k, v_{id}^k are the velocity and position of particle i at the kth iteration, and they are updated by

$$v_{id}^{k+1} = \omega v_{id}^k + c_1 \text{Rand}(p_{id} - x_{id}^k)$$
$$+ c_2 \text{Rand}(p_{\text{pbest}}^k - x_{id}^k), \tag{8}$$
$$x_{id}^{k+1} = x_{id}^k + v_{id}^k,$$

where c_1, c_2 are learning factors; Rand are random numbers; ω are inertia weights.

5. Simulation Verification

In the sports network education resource sharing platform, the information of entities directly related to the user's application logic, such as teacher information, sports network course information, sports competition information, and student information, needs to be stored in a database. Therefore, in the process of designing a sports network education resource sharing platform, database design plays a crucial role. A scientific and reasonable design can improve throughput speed and reduce network burden while ensuring data integrity. All information systems have a database management system to support them, and the university sports network education sharing platform is no exception, as shown in Figure 5.

There are many ways to access IoT educational resources, and due to the lack of unified standards, many IoT device providers use private protocols to connect with the Internet, so it is theoretically unrealistic to develop a program to support the access of various heterogeneous IoT resources. For this reason, we have adopted two ways to complete the access of various types of IoT educational resources. For IoT devices that can use HTTP protocol for transmission, we provide access to two standard data formats, JSON and XML. The data sender can send the conforming IoT resource packets to the server through HTTP-POST method, and the server then completes the data preservation through the
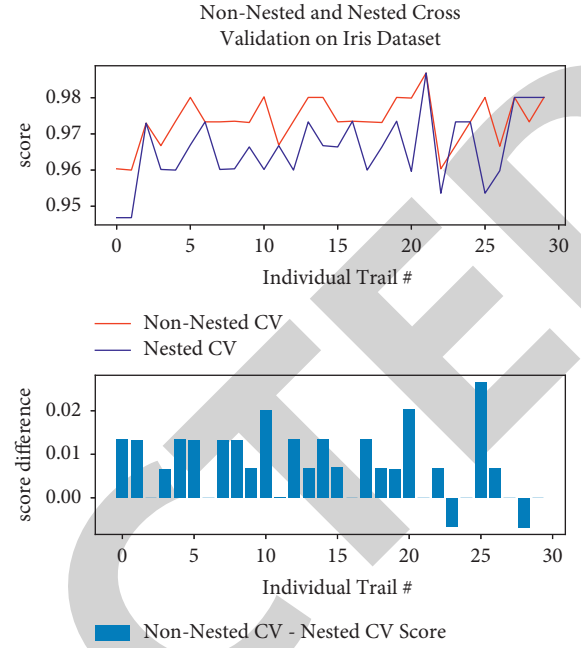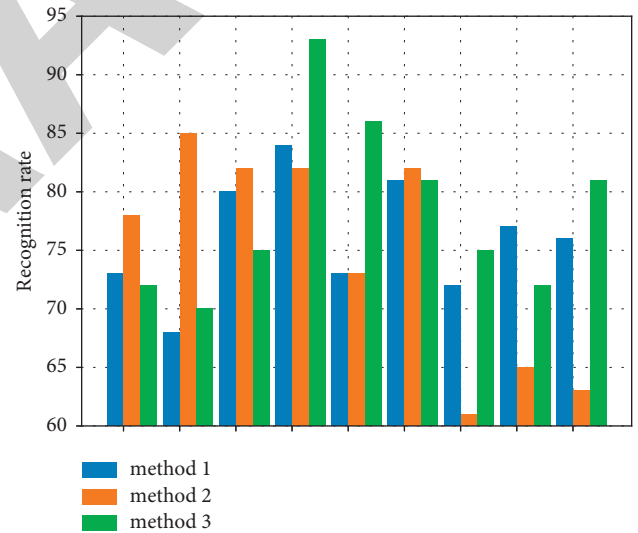

Figure 5: Platform test results.

Figure 6: Recognition rate of different network actions.

following stages with different network recognition rates as shown in Figure 6.

For the data that cannot realize HTTP protocol by itself, we adopt the model of base SDK + specific access type developed separately. The reason why this approach is used is because I found that, no matter what kind of IoT resources are used to access the IoT educational resource library, the work to be done and its steps are the same. All need to go through the following stages: data reading: how to make the computer can get IoT data; this process may require the computer to take the initiative to get, and there may be a passive computer to receive. After the data reading is completed, the IoT data exists in the computer. IoT data
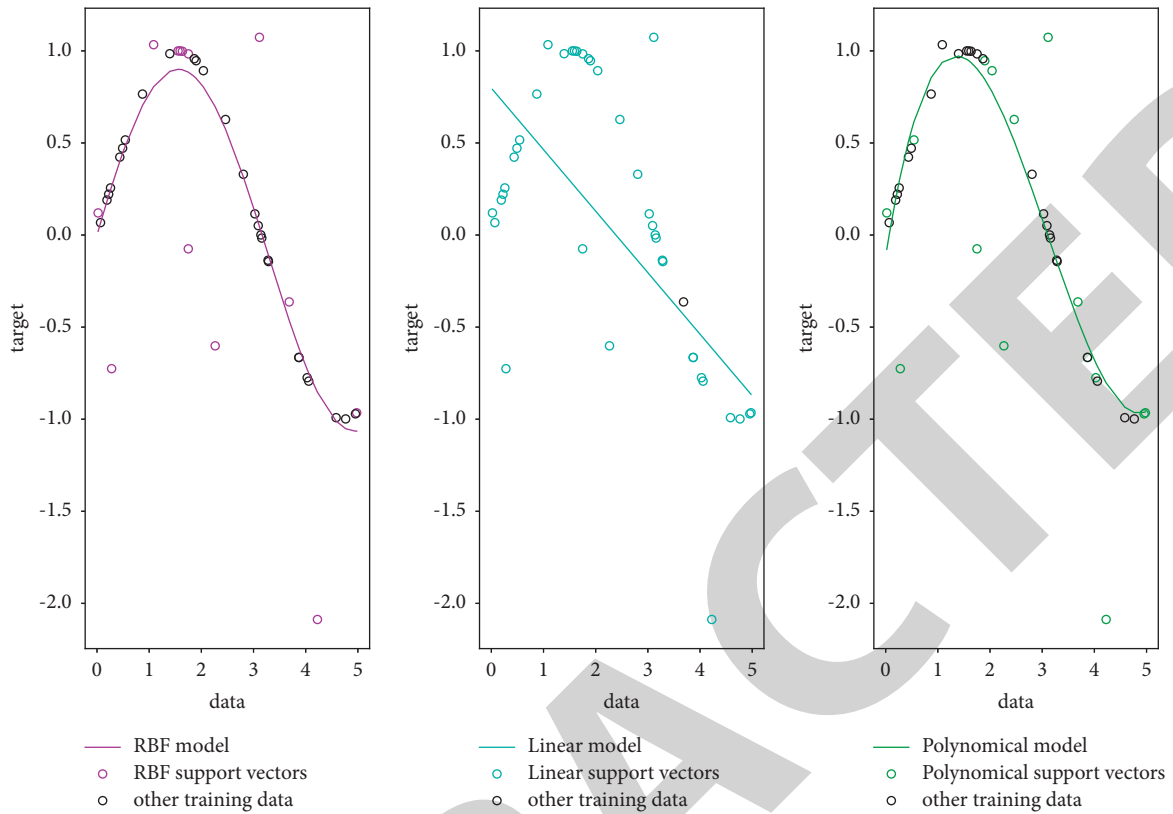
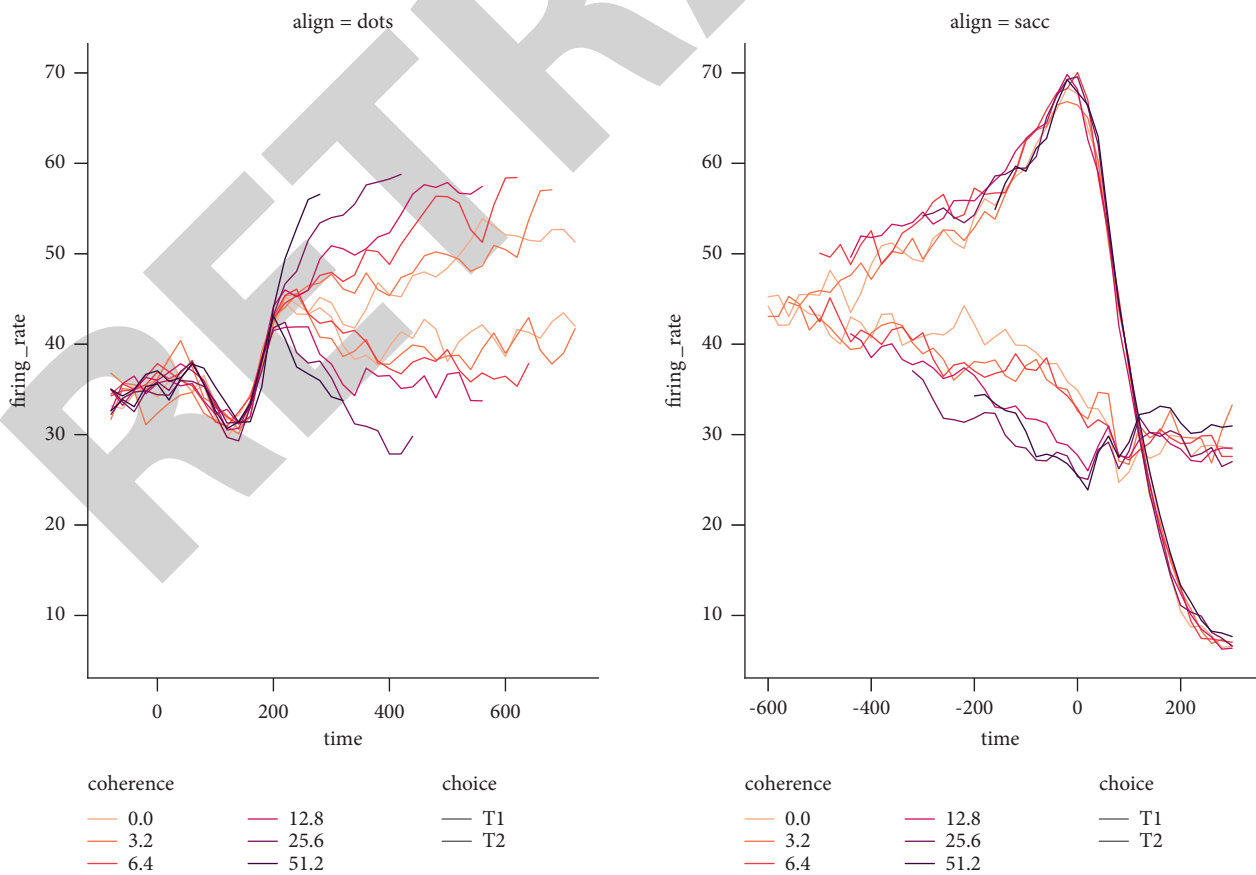Figure 7: Data acceptance categorization effect.

Figure 8: Effect of integration of different sports resources.

Table 1: The proportion of students at each category from 2016 to 2019.

Year	Excellent category (%)	Good class (%)	Pass (%)	Failing category (%)
2019	0.88	15.89	74.97	8.55
2018	1.05	16.77	72.32	9.99
2017	1.36	2032	67.82	10.63
2016	0.97	19.87	69.22	10.15

Table 2: Algorithm performance comparison table.

Evaluating indicator	Literature 13	Literature 16	Literature 17	Our algorithm
AUC	0.707	0.712	0.762	0.854
Running time (s)	0.995	0.874	1.23	1.854

exists in the computer, accepting the data categorization effect as shown in Figure 7.

The data entering the computer may be meaningless binary, two bytes of which represents temperature information and two bytes represents humidity information, so we must get the parsed data with the help of parsing rules. The parsed data, though representing a certain physical quantity, is not necessarily understood by the user, so it needs to be converted into data that can be understood by the user through the corresponding data and formula. Considering the technical characteristics of IoT, it is often that the same data is read several times or wrong data is read, and the application must filter out invalid data as much as possible; of course, complete filtering is impossible. The effect of sports resource integration is shown in Figure 8.

As can be seen from Figure 8, only the data reading work is related to the IoT access method, so we encapsulate other functions into the SDK way. Users can carry out a small amount of development and can complete a certain type of IoT resources access; of course, the system has come with a variety of IoT resources access, such as the common RTU way and serial port way. At the same time, the resource library provides open data query interface, and users can request through HTTP-POST, so that the resource library to return to the IoT education resources data is presented in JSON or XML format. The proportion of the number of students in each category was calculated for each year to observe the overall distribution of students' physical fitness in the school, as shown in Table 1.

As shown in Table 1, only 1% of the students were classified as "Proficient" each year. The percentage of students in the "Failing" category found that 10% of students did not reach the pass mark in recent years. The percentage of students in the "Good" category was nearly 20%. In contrast, the percentage of students in the "Excellent" and "Good" categories increased significantly in 2017 compared to 2016, and the percentage of students in the "Excellent" category was the highest in recent years. In the "Good" category, the percentage of students in 2017 is still the highest. In the "Pass" category, 2019 has the highest percentage of students and it is clear that the passing rate of students in 2019 has increased, while the percentage of "Failing" category has decreased by 1.54%. The physical quality of these two categories of students is significantly lower than the normal level of health, if not timely adjustment, will have a great impact on their lives and studies. To reduce the failure rate and to improve the physical quality of students are the original intention of every university and every physical education teacher to carry out teaching.

The performance comparison of different methods is shown in Table 2.

6. Conclusion

In this paper, the construction contents of college sports network education resources sharing mechanism are proposed: the construction of college sports network education resources, the sharing platform of college sports network education resources, and the management and coordination of college sports network education resources sharing. The guarantee of the sharing of Koranic sports Koranic network education resource was guided by control theory. The development prospect of the sharing mechanism of college sports network education resources was also analyzed.

Data Availability

The experimental data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares no conflicts of interest regarding this work.

References

[1] A. MacPhail and J. Halbert, "We had to do intelligent thinking during recent PE": students' and teachers' experiences of assessment for learning in post-primary physical education," *Assessment in Education: Principles, Policy & Practice*, vol. 17, no. 1, pp. 23–39, 2010.

[2] A. E. Staiano and S. L. Calvert, "Exergames for physical education courses: physical, social, and cognitive benefits," *Child development perspectives*, vol. 5, no. 2, pp. 93–98, 2011.

[3] A. M. Trad, K. A. Richards, and W. J. Wilson, "Strategies to increase self-, student, and discipline advocacy in adapted physical education," *Teaching Exceptional Children*, vol. 54, no. 1, pp. 52–62, 2021.

[4] G. W. Heath, D. C. Parra, O. L. Sarmiento et al., "& lancet physical activity series working group," *The Lancet*, vol. 380, no. 9838, pp. 272–281, 2012.

[5] T. C. Lewallen, H. Hunt, W. Potts-Datema, S. Zaza, and W. Giles, "The whole school, whole community, whole child model: a new approach for improving educational attainment and healthy development for students," *Journal of School Health*, vol. 85, no. 11, pp. 729–739, 2015.

[6] E. Baran, "A review of research on mobile learning in teacher education," *Journal of Educational Technology & Society*, vol. 17, no. 4, pp. 17–32, 2014.

[7] F. Coalter, "The politics of sport-for-development: limited focus programmes and broad gauge problems?" *International Review for the Sociology of Sport*, vol. 45, no. 3, pp. 295–314, 2010.

[8] A. Singh, L. Uijtdewilligen, J. W. Twisk, W. Van Mechelen, and M. J. Chinapaw, "Physical activity and performance at school," *Archives of Pediatrics and Adolescent Medicine*, vol. 166, no. 1, pp. 49–55, 2012.

[9] N. L. Holt, K. C. Neely, L. G. Slater et al., "A grounded theory of positive youth development through sport based on results from a qualitative meta-study," *International Review of Sport and Exercise Psychology*, vol. 10, no. 1, pp. 1–49, 2017.

[10] Z.-wan Zhang, Di Wu, and C.-jiong Zhang, "Study of cellular traffic prediction based on multi-channel sparse LSTM[J]," *Computer Science*, vol. 48, no. 6, pp. 296–300, 2021.

[11] P. An, Z. Wang, and C. Zhang, "Ensemble unsupervised autoencoders and Gaussian mixture model for cyberattack detection," *Information Processing & Management*, vol. 59, no. 2, Article ID 102844, 2022.

[12] X. Ning, K. Gong, W. Li, L. Zhang, X. Bai, and S. Tian, "Feature refinement and filter network for person re-identification," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 31, no. 9, pp. 3391–3402, 2021.

[13] X. Ning, K. Gong, W. Li, and L. Zhang, "JWSAA: joint weak saliency and attention aware for person re-identification," *Neurocomputing*, vol. 453, pp. 801–811, 2021.

[14] J. Guo and B. Li, "The application of medical artificial intelligence technology in rural areas of developing countries," *Health equity*, vol. 2, no. 1, pp. 174–181, 2018.

[15] Z. Han, "The application of artificial intelligence in computer network technology," in *Proceedings of the 2021 2nd International Seminar on Artificial Intelligence, Networking and Information Technology (AINIT)*, pp. 632–635, IEEE, Shanghai, China, 2021, October.

[16] Y. Wang, Le Sun, and S. Subramani, "CAB: classifying arrhythmias based on imbalanced sensor data," *KSII Transactions on Internet & Information Systems. Jul.*vol. 15, no. Issue 7, 2320 pages, Article ID p2304, 2021.

[17] H. Lu, Y. Li, M. Chen, H. Kim, and S. Serikawa, "Brain intelligence: go beyond artificial intelligence," *Mobile Networks and Applications*, vol. 23, no. 2, pp. 368–375, 2018.

[18] G. Hsu, "Using math-physical medicine and artificial intelligence technology to manage lifestyle and control metabolic conditions of T2D," *Diabetes & its Complications*, vol. 2, no. 3, pp. 1–7, 2018.

[19] J. Jin, J. Gubbi, S. Marusic, and M. Palaniswami, "An information framework for creating a smart city through internet of things," *IEEE Internet of Things Journal*, vol. 1, no. 2, pp. 112–121, 2014.

[20] B.-h. Li, B.-c. Hou, W.-t. Yu, X.-b. Lu, and C.-w. Yang, "Applications of artificial intelligence in intelligent manufacturing: a review," *Frontiers of Information Technology & Electronic Engineering*, vol. 18, no. 1, pp. 86–96, 2017.

[21] B. Chen, J. Wan, L. Shu, P. Li, M. Mukherjee, and B. Yin, "Smart factory of industry 4.0: key technologies, application case, and challenges," *IEEE Access*, vol. 6, pp. 6505–6519, 2018.

[22] M. Batty, K. W. Axhausen, F. Giannotti et al., "Smart cities of the future," *The European Physical Journal - Special Topics*, vol. 214, no. 1, pp. 481–518, 2012.

[23] M. M. Rathore, A. Ahmad, A. Paul, and S. Rho, "Urban planning and building smart cities based on the internet of things using big data analytics," *Computer Networks*, vol. 101, pp. 63–80, 2016.

[24] J. Lin, W. Yu, N. Zhang, X. Yang, H. Zhang, and W. Zhao, "A survey on internet of things: architecture, enabling technologies, security and privacy, and applications," *IEEE Internet of Things Journal*, vol. 4, no. 5, pp. 1125–1142, 2017.

[25] E. Oztemel and S. Gursev, "Literature review of Industry 4.0 and related technologies," *Journal of Intelligent Manufacturing*, vol. 31, no. 1, pp. 127–182, 2020.