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Retraction

Retracted: The Cultivation and Training Effect of the Subconscious Mind in Physical Education and Training by Intelligent Internet of Things Network Computing

Security and Communication Networks

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This article has been retracted by Hindawi, as publisher, following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of systematic manipulation of the publication and peer-review process. We cannot, therefore, vouch for the reliability or integrity of this article.

Please note that this notice is intended solely to alert readers that the peer-review process of this article has been compromised.

Wiley and Hindawi regret 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 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] Q. Xu and Q. Jia, "The Cultivation and Training Effect of the Subconscious Mind in Physical Education and Training by Intelligent Internet of Things Network Computing," *Security and Communication Networks*, vol. 2022, Article ID 1603535, 12 pages, 2022.

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Research Article

The Cultivation and Training Effect of the Subconscious Mind in Physical Education and Training by Intelligent Internet of Things Network Computing

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With the deep integration of the Internet of Things and artificial intelligence, the intelligent Internet of Things is becoming a cutting-edge technology with broad application prospects. The intelligent Internet of Things can realize the interconnection, interaction, perception, and calculation of human, machine, object, environment, and other elements, thereby realizing the intelligent space function with self-organization, self-learning, self-adaptation, and continuous evolution. Based on the intelligent Internet of things, this paper analyzes the cultivation and training effect of network computing on the subconscious in physical education training. An experimental study of its influence on the learning of shooting techniques in the compulsory basketball course of the physical education class of the high school affiliated to Jiangxi Normal University in 2020 was conducted. It is concluded that the average score of students' learning motivation in the intelligent Internet of Things network computing group is 4.06, and the average score of learning interest is 3.9. After the experiment, the pass rate of students' shooting was 92%, and the excellent rate was 74%. The use of intelligent Internet of Things network computing technology can significantly improve students' learning motivation, learning interest, and training effect.

1. Introduction

Artificial intelligence technology originated in the 1950s and is based on big data network resources. According to the characteristics of human intelligence, the artificial system designed by computer information technology is simulated and used for the development of machines, software, or new technologies and finally applied in various fields. With the continuous development of a new generation of information technologies such as the Internet of Things, big data, cloud computing, and edge computing, artificial intelligence technology has entered a stage of rapid development. The speed of its development shows an exponential growth trend. From theoretical concepts to practical applications, it has gradually realized various functions such as speech recognition, image recognition, language recognition, and natural language processing. It has been widely used in education, medical care, security, finance, autonomous driving, and many other fields. The research of artificial intelligence mainly includes machine learning, language recognition, robots, and expert systems. Its essence is to implement a computing system that mimics human cognition. During this period, the Internet of Things, an emerging technology known as the third wave of information revolution after computers and the Internet, also developed rapidly around the world. As an important part of the new information technology, the Internet of Things technology is the basic network pillar for the development of the Internet of everything. The Internet of Things is a new Internet technology that expands and extends on the basis of traditional networks. It is formed by the fusion of various information sensing devices and network technologies. This realizes the interconnection between people, people and things, and things and things so as to realize information exchange and network communication. With the advent of the Internet of Things era, the application of the Internet of Things involves many fields. It includes fields such as smart campus, mobile payment, smart medical care, and logistics management system. The birth of the Internet of Things has brought artificial intelligence technology to a higher level, which in turn has led to the vigorous development of artificial intelligence and Internet of Things technology. The Internet of Things technology is closely integrated with artificial intelligence, big data, cloud computing, and other technologies, and the intelligent Internet of Things technology emerges.

Compared with traditional IoT technology, smart IoT is an emerging IoT technology. It uses various sensors for data collection, storage, cloud computing, and big data analysis. And intelligent technologies such as data mining and machine learning in terminal devices, edge devices, or the cloud are used. This enables intelligent processes such as intelligent perception, target recognition, energy consumption management, prediction and early warning, and decision-making. The essence of the intelligent Internet of Things is to make the Internet of Things develop from digital to intelligent and give it the power of "living." It completes the multisource information interaction between people and things and things and things and truly achieves the interconnection of "things and things." In recent years, the intelligent Internet of Things is gradually integrating into many fields of social life. It has been applied in smart city, smart manufacturing, smart security, and other fields. At present, the application of intelligent Internet of Things technology in physical education is still in the initial stage of exploration, and there is a large space for development. It still belongs to the stage of just starting and exploration and has a large space for development. Based on the perspective of intelligent Internet of things, this paper analyzes the cultivation and training effect of network computing on the subconscious in physical education training. It provides a feasible reference for the application of intelligent Internet of Things network computing technology in physical education.

2. Related Work

In terms of theoretical research, experts and scholars at home and abroad have discussed the definition, technical direction, application, and development prospects of intelligent Internet of Things in various fields. In the intelligent Internet of Things industry chain, various links and applications have done relevant research. Edge-driven smart IoT systems are vulnerable to malicious attacks, which in turn cause serious security issues. To solve this problem, Dai has built an edge-driven security framework for intelligent IoT systems. He first introduced the architecture of edge-driven intelligent IoT, showing typical edge-driven intelligent IoT applications. Secondly, he pointed out the security threats of edge-driven intelligent IoT from the perspective of attackers' attack behavior. He then developed an edge-driven smart IoT system from a security perspective. Finally, he confirmed the feasibility and scientificity of the system through case studies [1]. Qin et al. proposed a scheduling framework based on regional reinforcement learning (RRL). Its use in machine learning models in IoT applications can effectively identify optimal configurations under dynamic workloads. The results show that, due to the correlation of the models, the system performance of these configurations can be used to accurately estimate the system performance under similar configurations in the region. Their proposed framework RRL can balance the convergence speed and improve the performance of machine learning [2]. Huang and Kieffer are researching intelligent IoT sensor systems for building environment monitoring. They designed a hybrid smart sensor platform to accurately calculate occupancy rates in energy-efficient buildings. The hardware architecture of the intelligent sensor platform is divided into two modules: the main module and the door monitoring module. Five heterogeneous sensors are integrated in the architecture to collect richer parameters of the built environment. It includes temperature, humidity, CO_2, and acoustic and infrared signals. These sensor signals can be fused to analyze cross-correlation to improve the accuracy of building occupancy counts. The function of the intelligent IoT sensor system is verified by testing the performance experiment in the PCB board [3]. Due to the low power consumption, dense deployment, and unattended setup of IoT, its security is more difficult to guarantee. To solve the source reliability problem, Jiang proposed a fog computing perception mechanism based on throughput constraints. His core ideas are throughput constraints and perception strategies in fog computing and the introduction of fog access points. This improved throughput constraint enables efficient information perception, eliminating these uncertain and erratic results. He obtains more complete and reliable measurement data than a single sensor, thereby improving the transmission efficiency of the network and the accuracy of environmental perception. The simulation results show that the model has the characteristics of reliable node perception data and flexible expansion, which can effectively improve the reliability of IoT data sources [4]. Villemur et al. introduce and test the architecture of single-instruction, multiple-data (SIMD) processors. It is used for approximately linear piecewise energy-aware embedded morphological vision processing. The architecture consists of a linear array of 48×48 processing elements. Each processing element is connected to a data set of binary inputs. The experimental results show that the chip under this system can achieve dynamic voltage/frequency scaling in the power supply range of 0.5~1.2 V. The overall performance of 293 TOPS/W is far higher than the operating efficiency and performance of chips under other architectures [5]. Garcia-De-Prado et al. proposed a collaborative context-aware service-oriented architecture (COLLECT). It is used to facilitate the integration and processing of contextual data in heterogeneous domains of the IoT, facilitating context-aware intelligent decision-making in this range. This architecture helps to handle data from multiple IoT devices and data delivery between system agents to better provide intelligent decision-making services to users [6]. Santos et al. designed an IoT-based intelligent personal assistant. It is an agent software that helps people with many daily activities. It is able to access information in the database to guide people

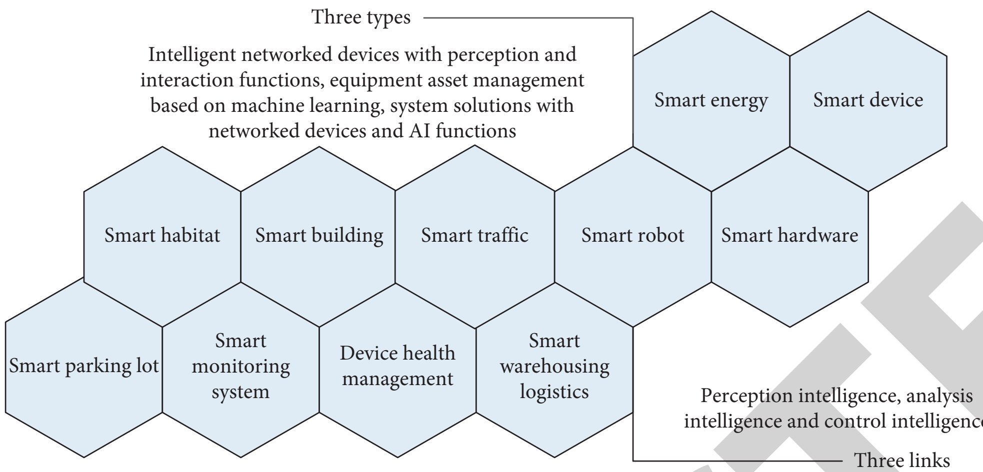


Figure 1: Definition map of the intelligent Internet.

through different tasks, deploying learning mechanisms to acquire new information about user performance. It is also possible to autonomously collect information from the surrounding environment to improve services provided to users. They combined wireless sensor networks with the Internet, considering many influencing factors, such as the heterogeneity of objects and the diversity of communication protocols [7].

3. Intelligent IoT and Network Computing

3.1. Intelligent IoT. Intelligent Internet of Things is a technology that highly combines the Internet of Things and artificial intelligence through radio frequency identification, infrared sensors, laser scanners, global positioning systems, and other sensing devices. In the real world, the interconnection between things and things and people and things is established. In this way, a new generation of Internet information technology for intelligent identification, positioning, monitoring, and management can be realized [8, 9]. With the rapid development of information technologies such as big data, cloud computing, and blockchain, as well as the arrival of the 5G era, the connection between the intelligent Internet of Things and human social life has become increasingly close.

The intelligent Internet of Things emerged in 2018, and its definition diagram is shown in Figure 1. The system refers to intelligent analysis on end devices, edge domains, or the cloud. It locates, compares, predicts, and schedules various data information collected by a large number of sensors (usually in scenarios such as monitoring, interaction, and connection). From a technical point of view, artificial intelligence can make the Internet of Things have perception and recognition functions, and the Internet of Things provides algorithms for artificial intelligence. From a commercial point of view, the combination of the two will promote the development of economic entities, promote industrial upgrading, and optimize experience [10]. In terms of specific types, intelligent IoT can be divided into three categories. They are intelligent networked devices with perception and interaction, equipment asset management based on machine learning, and system solutions with artificial intelligence technology. In collaborative work, the issues of perception intelligence, analysis intelligence, and control intelligence are mainly studied [11].

In the architecture of the intelligent Internet of things, there are mainly three levels. They are smart devices and solutions, operating system layer, and infrastructure layer. Finally, it is delivered by an integrated integration service, and its architecture diagram is shown in Figure 2 [12]. Smart devices are the "five senses" and "hands and feet" of the smart Internet of Things. It can collect data such as image, sound, pressure, temperature, and so on, and complete work such as grabbing, sorting, and handling. This layer includes a variety of different types of equipment and different morphologies. The operating system is the "brain" of the IoT. Its role is to connect and control equipment, provide intelligent analysis and data processing capabilities, and convert key applications into various functional modules. This layer has higher requirements for business logic, unified modeling, full-link technology, and high concurrency support capabilities. Infrastructure is the "torso" of the intelligent IoT. It provides IT infrastructure such as servers, storage, AI training, and deployment facilities [13].

Thanks to the Internet of Things technology accumulated over the years and the rapid development of artificial intelligence technology in recent years, the field of intelligent Internet of Things has been favored by capital [14]. Figure 3 shows the investment and financing situation in China's intelligent Internet of Things field. From 2015 to November 2019, there were 1,718 investment and financing activities in the smart IoT industry, totaling 191.9 billion yuan. From a financing perspective, more than 90 percent of companies are emerging companies. Judging from the investment growth rate from 2015 to 2018, the number of investment events has a compound growth rate of close to 14% and a financing rate of up to 73%. The intelligent Internet of Things has become a new venture capital outlet. From an investment bank's point of view, the use of technology in business is critical. Table 1 shows the five companies with the

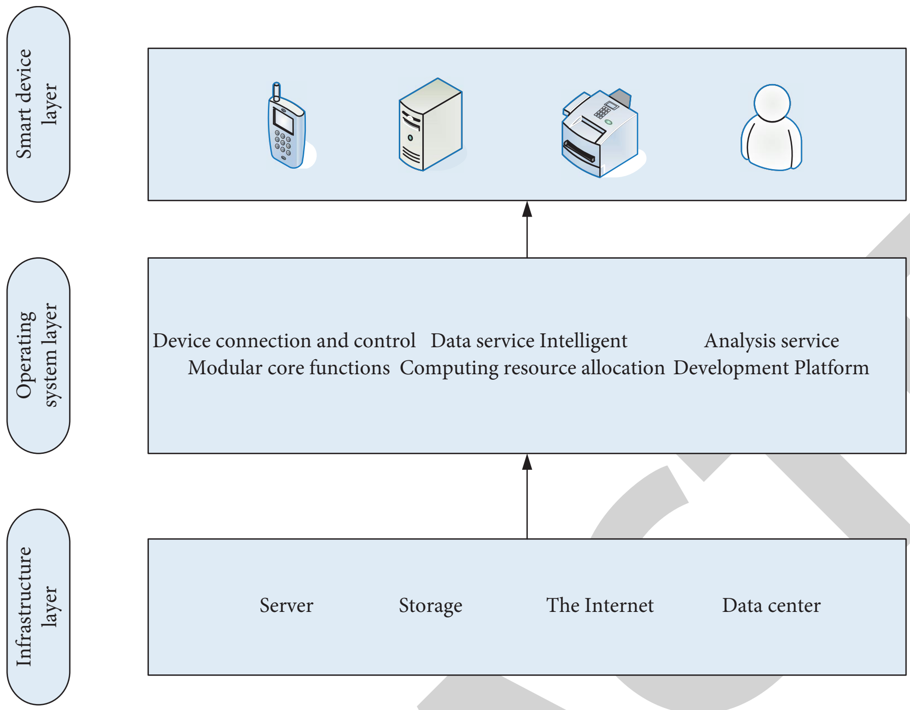


Figure 2: Intelligent Internet of Things system architecture diagram.

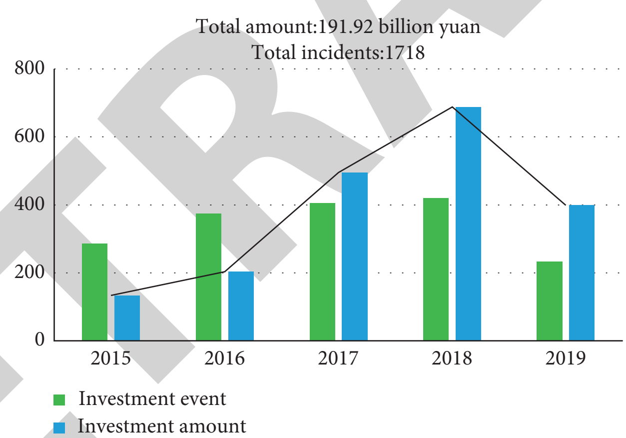


Figure 3: China's investment and financing in the AIoT field from 2015 to 2019.

Table 1: Top 5 companies with the largest single financing amount in mature projects.

Company name	Enterprise type	Financing round	Single round of financing/100 million yuan
SenseTime	AI company	Round D	66
MEGVII	AI company	Round D	52
Kingsoft Cloud	Cloud computing	Round D	48
Pachira Information	AI company	Round D	21
Mininglamp technology	Data service	Round D	20

Table 2: China's AIoT market size and structure from 2018 to 2022.

Time	Market size/100 million yuan
2018	2590
2019	3808
2020	5815
2021	6548
2022	7509

largest single financing amount for mature projects. The data shows that in a mature project, the largest financing amount for a single project is in the top five companies, accounting for 10% of the total market capital.

The intelligent Internet of Things technology endows the real economy with the ability to integrate, allowing the market space of the entire industry to reach ten trillion levels

[15]. Table 2 shows the market size of China's smart IoT. In 2019, due to the application of large-scale urban smart IoT services and edge computing technology, China's smart IoT market size has exceeded 300 billion and is close to 400 billion. By 2022, the smart IoT market size is expected to exceed RMB 750 billion.

3.2. Network Computing. Network computing, also known as metacomputing, is a cutting-edge technology in the field of high-performance computing. It connects a series of computing resources with different attributes together through a wide area network. An independent computing environment is formed to provide computing services for users. Network computing connects individual personal computers, workstations, mainframes, and other computer resources through a network. A seamless and transparent computing system is formed, which can realize data sharing and collaboration, thus forming powerful computing capabilities. The system can not only speed up the operation, make the user perform a large number of operations as much as possible, but also save money. It has good scalability and can meet the growing computing demands. The ultimate goal of network computing is to compute network resources. It allows users to share computing resources on the network and perform collaborative computing [16]. In the running process of network computing, it is divided into two levels: front-end computing and kernel computing. Front-end computing is mainly to meet the needs of users for various computing resources in the WAN. Kernel computing is aimed at cooperating between different large computers, providing a unified environment for the development and operation of the entire system. When the user makes a computing request, the computing program will reasonably plan and manage the computing resources in the system. The operation results are sent to the front end of the meta-operation and finally fed back to the user [17]. With the continuous development of information technology, the application of the Internet of Things, databases, remote sensors, and other equipment is becoming more and more extensive. More and more computers are able to link these technologies with devices. And connect it with other devices to realize the integration and management of computing resources. This comprehensive computing resource environment is also called a computing resource repository, which we often call a grid. It can make full use of various resources and turn the Internet into a kind of giant supercomputer and convert it into accessible, reliable, standard computing resources so as to realize the all-round sharing of computing, storage, data, information, and knowledge.

The network computing architecture diagram is shown in Figure 4. It consists of network computing server, shared forwarding control server, and network computing client [18]. A computer as the initial network computing server sends data to the shared forwarding control server. Table 3 presents the workflow of the origin server. First, the VNCServer sends a data conference start request to the shared forwarding control server. The request information includes data conference ID number, data conference number, conference host, shared window handle, client IP address of the shared desktop, server access port, whether it is in the same local area network, directly connected client access port, and so on [19]. The intermediate server is responsible for the two functions of a content forwarding server and a network management server. It can transfer the pressure of source server performance and bandwidth and can also achieve unified management. Finally, the intermediate server sends the shared data to each client. Table 4 is the interactive information sent by the shared server and the client.

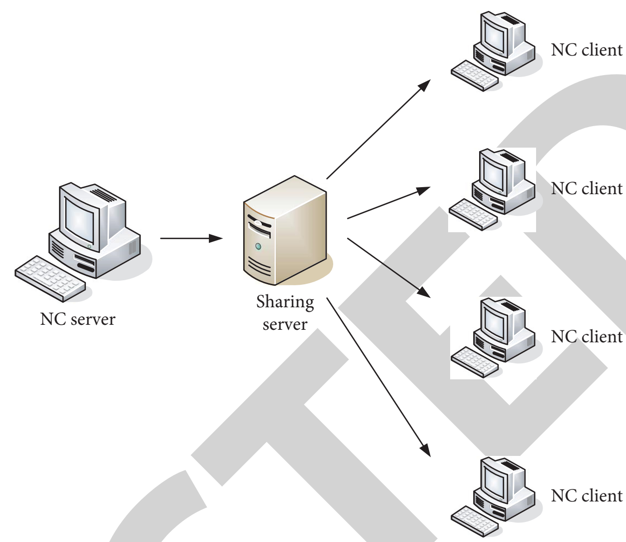


Figure 4: Network computing architecture diagram.

Table 3: The processing flow of the initiating server.

Algorithm: The processing flow of the initiating server	
BEGIN	
1	Meeting ID
2	Client number
3	Controller
4	HW sharewindow
5	NC server IP
6	NC server PORT
7	INLAN
8	Drielink PORT

Table 4: Mutual information from sharing server and client.

Mutual information from sharing server	Mutual information to client
FramebufferUpdate	FramebufferUpdateRequest
Bell	KeyEvent
ServerCutText	PointerEvent
—	ClientCutText

A major feature of grids is their distribution, as shown in Figure 5. Computers with different computing capabilities, various types of databases, equipment, and resources that make up the grid are not concentrated in one area, but distributed in various places. In a grid environment,

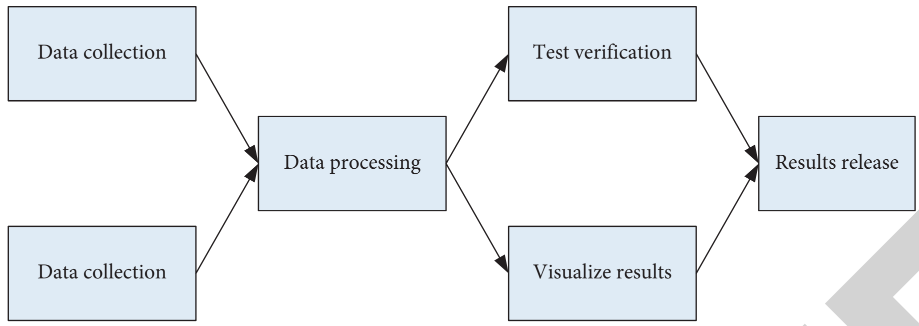


Figure 5: Distribution of grid.

distributed resources are shared. The meaning of this sharing is very broad, and it does not just mean that a computer in one place can be used to perform different tasks in other places. It also covers aspects such as data collection and processing, experimental validation, and results visualization and publication.

3.2.1. Mathematical Model of Power Flow Calculation. The power flow calculation is to use the existing power system parameters to solve the operation of the network and convert it into solving a set of nonlinear algebraic formulas. Power system power flow calculation is the basis of network system planning and operation. The main content of the current power flow calculation is to optimize the power flow formula online, and at the same time, the real-time performance of the calculation is required. Because the modern network system has the characteristics of large system, strong nonlinearity, multielement, and so on. Power flow calculation requires a lot of computation and complexity [20].

After linearizing the network system, the power flow calculation model is generally expressed as a set of linear algebraic formulas:

$$AX = b, \tag{1}$$

where A is a nonsingular symmetric sparse matrix, the vector X is the variable to be determined, and the vector b is the given independent variable.

There are many solutions to formula (1). The most effective serial solution method currently used in network systems is the triangular decomposition method, which is solved through the previous generation and back generation process; namely,

$$\begin{aligned} A &= LDU, \\ LY &= b, \\ DU\ X &= Y. \end{aligned} \tag{2}$$

To solve in parallel, it is necessary to enable formulas (2), (3), and (4) to be calculated at the same time.

In the sparse linear algebraic formulas of power flow, the commonly used parallel computing methods are the sparse vector method and the inverse matrix method [21]. Both algorithms have their advantages and disadvantages. Although the sparse vector method can guarantee the sparseness of the factor table, it has a strong correlation. The inverse matrix method has good parallelism, but by using the inverse matrix, the number of nonzero elements can be greatly increased, and the amount of operation is also increased. In order to make the parallel operation of the power flow problem faster, it is necessary to combine the sparse vector method and the inverse matrix method.

The BBDF algorithm is a relatively easy method to implement in the power flow parallel algorithm of the network system. Its task division is shown in Figure 6. Among them, $A1, A2, \ldots An$ are independent of each other and only interact with $An + 1$. And each block in the graph can be further divided into BBDF.

The basic matrix of power flow calculation can be decomposed into

$$A = LU. \tag{3}$$

$$\text{Among them, } A = \begin{bmatrix} A_1 & 0 & 0 \\ 0 & A_2 & 0 \\ 0 & 0 & \ddots \\ \cdots & \cdots & A_{1c} \\ \cdots & \cdots & A_{2c} \\ \cdots & \cdots & A_{3c} \\ \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \\ A_{c1} & A_{c2} & A_{c3} \\ \ddots & \vdots & \vdots \\ \cdots & A_n & \vdots \\ \cdots & \cdots & A_c \end{bmatrix}.$$

The parallel decomposition of matrix A is as follows:

$$\left\{ \begin{array}{c} L_{11}U_{11} = A_{11}, L_{11}U_{1c} = A_{1c}, L_{c1}U_{11} = A_{c1}, L_{c1}U_{1c} = A_1 \\ L_{22}U_{22} = A_{22}, L_{22}U_{2c} = A_{2c}, L_{c2}U_{22} = A_{c2}, L_{c2}U_{2c} = A_2 \\ \cdots \\ \cdots \\ L_{nn}U_{nn} = A_{nn}, L_{nn}U_{nc} = A_{nc}, L_{cn}U_{nn} = A_{cn}, L_{cn}U_{nc} = A_n \end{array} \right\}. \tag{4}$$

The parallel solution of matrix L is as follows:

$$\begin{bmatrix} L_{11} & 0 & 0 \\ 0 & L_{22} & 0 \\ 0 & 0 & \ddots \\ \cdots & \cdots & 0 \\ \cdots & \cdots & 0 \\ \cdots & \cdots & 0 \\ \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \\ L_{c1} & L_{c2} & L_{c3} \\ \ddots & \vdots & \vdots \\ \cdots & L_{nn} & \vdots \\ \cdots & \cdots & L_c \end{bmatrix} \begin{bmatrix} \omega_1 \\ \omega_2 \\ \omega_3 \\ \vdots \\ \omega_n \\ \omega_c \end{bmatrix} = \begin{bmatrix} b_1 \\ b_2 \\ b_3 \\ \vdots \\ b_n \\ b_c \end{bmatrix}, \tag{5}$$

$$\begin{cases} L_{11}\omega_1 = b_1 \ \text{then} L_{c1}\omega_1 = b_{c1} \\ L_{22}\omega_2 = b_2 \ \text{then} L_{c2}\omega_2 = b_{c2} \\ \cdots \\ \cdots \\ L_{nn}\omega_n = b_n \ \text{then} L_{cn}\omega_n = b_{cn} \end{cases}.$$

Finally, calculate

$$L_c W_c = b_c - \sum_{i=1}^{n} b_{ci}. \tag{6}$$

The parallel solution of matrix U is as follows:

$$\begin{bmatrix} U_{11} & 0 & 0 \\ 0 & U_{22} & 0 \\ 0 & 0 & \ddots \\ \cdots & \cdots & U_{1c} \\ \cdots & \cdots & U_{2c} \\ \cdots & \cdots & U_{3c} \\ \vdots & \vdots & \vdots \\ \vdots & \vdots & \vdots \\ 0 & 0 & 0 \\ \ddots & \vdots & \vdots \\ \cdots & U_{nn} & U_{nc} \\ \cdots & \cdots & U_c \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ \vdots \\ x_n \\ x_c \end{bmatrix} = \begin{bmatrix} \omega_1 \\ \omega_2 \\ \omega_3 \\ \vdots \\ \omega_n \\ \omega_c \end{bmatrix}. \tag{7}$$

Calculate

$$U_c x_c = \omega_c,$$

$$\begin{cases} U_{11}x_1 + U_{1c}x_c = \omega_1 \\ U_{22}x_1 + U_{2c}x_c = \omega_2 \\ \cdots \\ \cdots \\ U_{nn}x_n + U_{nc}x_c = \omega_n \end{cases}. \tag{8}$$

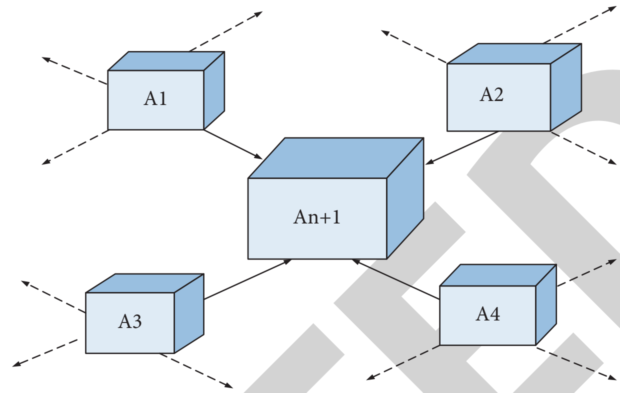


Figure 6: Model diagram of BBDF.

The BBDF partition method combines the physical meaning of the power system. It is a very typical division method, and many scholars have studied it. It is also a very good partitioning scheme to apply BBDF to the network computing platform.

3.2.2. Mathematical Model of Network Computing. Network computing is a wide range of distributed computing, similar to parallel computing, which requires classification of tasks, which is a very complex task. At present, in parallel computing, the BBDF algorithm is a relatively mature algorithm. But they are all based on specific application environments, or based on specific mathematical transformations. Task division is the first step in network operation. If the task division is too complicated, it will have an impact on the practical application of network operations [22–25]. In this paper, a method based on current injection is used for power flow calculation.

Usually the power flow formula can be expressed as follows:

$$Y.V = I = V_D^{-1^*}.S^*. \tag{9}$$

Among them, $V_D = \text{diag}\{V_1, V_2, \cdots V_n\}$.

This is a nonlinear formula that must be converted to a linear formula. The above formula can be linearized by the current injection method, and the power flow formula is usually solved by an iterative method. The power flow equation is generally solved by an iterative method. Among them, replace the V on the right side with the voltage value V^{k-1} obtained last time, and then replace the V on the left side of the formula with the current V^k to be found. The final linear formula can be expressed as follows:

$$Y.V^k = I = V_D^{(k-1)^* -1}.S^*. \tag{10}$$

The interconnected power system is divided into two areas. It is very complicated how to handle the boundary branch accurately and equivalently. Here, a simple approach is taken. The solution of the boundary voltage can be represented by the boundary variable of the adjacent region. The boundary current can be expressed as follows:

$$I_{21} = (V_2 - V_1)Y_{12},$$
$$I_{12} = (V_1 - V_2)Y_{12}. \tag{11}$$

In the iterative method, the boundary voltage of the opposite region can only be replaced by the last value. The boundary current can be approximated as follows:

$$I_{21}^k = \left(V_2^{k-1} - V_1^k\right)Y_{12} = V_2^{k-1}Y_{12} - V_1^kY_{12},$$
$$I_{12}^k = \left(V_1^{k-1} - V_2^k\right)Y_{12} = V_1^{k-1}Y_{12} - V_2^kY_{12}. \tag{12}$$

Since V_1^k and V_2^k are the variables that need to be solved for this iteration, so moving them to the left side of the formula gives the following expression:

$$I_{21}^k + V_1^kY_{12} = V_2^{k-1}Y_{12},$$
$$I_{12}^k + V_2^kY_{12} = V_1^{k-1}Y_{12}. \tag{13}$$

Because $Y = G + jB$, $V = e + j f$.

In the calculation, the injected current source matrix form of the subregion is as follows:

$$\begin{bmatrix} G & -B \\ B & G \end{bmatrix}\begin{bmatrix} e \\ f \end{bmatrix} = \begin{bmatrix} I_x \\ I_y \end{bmatrix}. \tag{14}$$

After injecting the current source,

$$I^k = Y_{ij}.V_{ij}^k = \frac{P - jQ}{V^{k-1}} = \frac{P - jQ}{e^{k-1} - j f^{k-1}}. \tag{15}$$

This formula can be transformed into

$$\frac{Pe^{k-1} + Qf^{k-1} + j\left(Pf^{k-1} - Qe^{k-1}\right)}{V^{(k-1)^2}} = I^k. \tag{16}$$

On the basis of the boundary equation, the internal power flow equation of each region is also added. These internal equations are composed of internal variables, which can form the solving equations of the whole system. Since the sparseness of the iterative equation is the same as the admittance matrix of the network system, the solution matrix of the whole equation conforms to the characteristics of the sparse matrix. Some previous sparse matrix processing techniques can also be used for this.

4. Experimental Design of Physical Education Teaching

24 students were randomly selected from the 2020 grade physical education class of Jiangxi *X* Middle School. They were divided into two groups according to their student numbers, and each group had 12 students as survey subjects. The experimental group used intelligent Internet of Things network computing technology for basketball teaching, while the control group used traditional technology for teaching and learning. They carry out 10 weeks of basketball technical training and learning for a total of 40 hours.

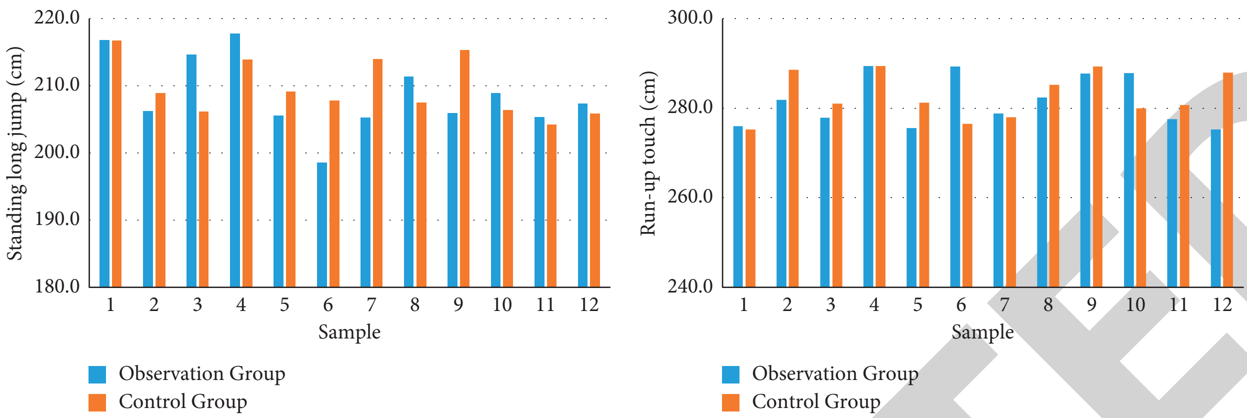
The main teaching content of this experiment is basketball skills, and a 10-week, 40-hour compulsory basketball course is taught. The experimental group used the theoretical system of intelligent Internet of Things network computing technology to teach basketball skills, while the control group used conventional technical skills to teach. The teaching progress and syllabus requirements are unified in accordance with the syllabus of the compulsory basketball course for physical education teaching in Jiangxi *X* Middle School. Before the experimental teaching, the two groups of students were tested for basic physical fitness and basic skills. The basic physical fitness test includes standing long jump and running touch tests. In the basic skills test, students' 1-minute shooting and round-trip dribbling layups were compared. In each week of experimental teaching, two groups of students were tested for physical learning motivation, and the scores of students' learning motivation and learning interest were recorded. After the experimental teaching, the two groups of students were tested for shooting skills, and the passing rate and excellent rate of students' shooting were analyzed.

4.1. Basic Physical Fitness Test.

As can be seen from Figure 7, the abscissa is different sample cases, each group has 12 people, and the ordinate is the distance of standing long jump and the height of approaching height. The average score of the students in the experimental group was 208.6 cm in standing long jump and 281.6 cm in running approach. The average score of the standing long jump of the students in the control group was 209.6 cm, and the average score of the approaching high was 282.7 cm. After the independent sample *t*-test was performed on the basic physical fitness test of the two groups of students, the *P* values were all >0.05. It shows that there is no significant difference in the basic level of physical fitness between the two groups of students before the teaching experiment.

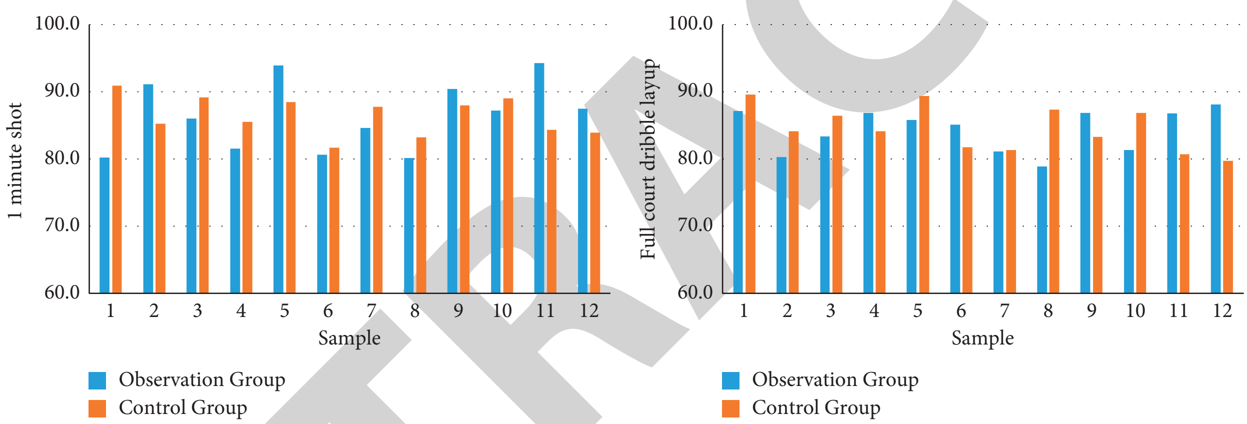
4.2. Basic Skills Basic Test.

As can be seen from Figure 8, taking the projection center of the hoop as the center of the circle, and the distance from the point to the free throw line as the radius, a circle is drawn. At the beginning, the student makes a jump shot at the isolated line and at the same time starts the timing. After the shot, they grabbed the rebound themselves and took the ball beyond the lone line. They continued the jumper, one minute in a row, for a one-minute shot test. Then from the midpoint on the right side of the court, they face the basket, dribble with their right hand for a layup, and start the clock. After making the shot, they dribble with their right hand to the midpoint of the left sideline then switch to their left hand for a layup. They also dribble the ball back to the original starting point with their left hand after the shot. In the same way, they repeat the above dribble shooting again, stop the watch when they return to the original starting point, and conduct a round-trip dribble layup test. The average score of the students in the experimental group was 86.5 for 1-minute shooting and 84.3 for the round-trip dribbling layup. Students in the control group scored an average of 86.4 points for a one-minute shot and an average of 84.6 for a round-trip dribble layup. Analysis of variance was performed on the basic test results of the two groups of students, and the *P* value was



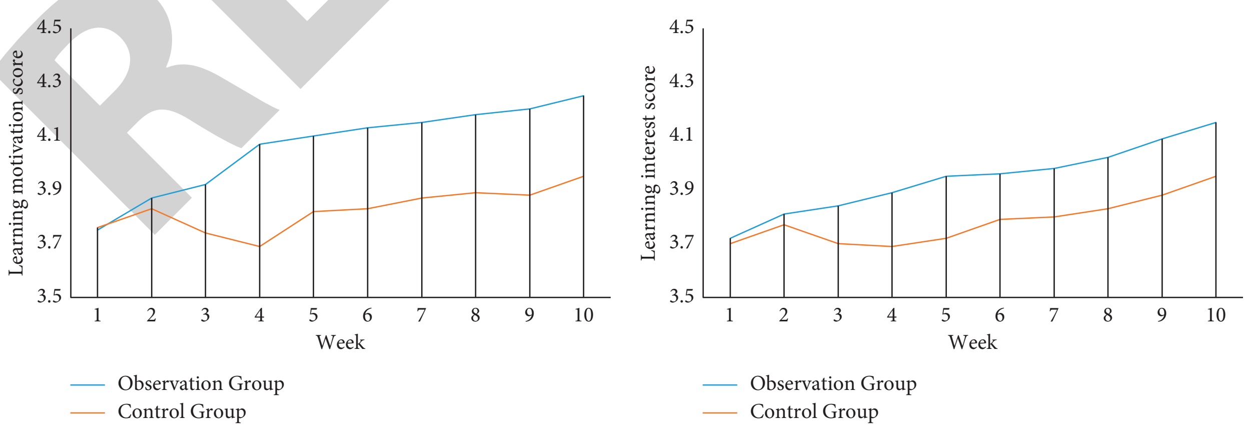
(a) (b)

Figure 7: Physical fitness test comparison chart. (a) The standing long jump scores of the experimental group and the control group. (b) The scores of students in the experimental group and the control group.



(a) (b)

Figure 8: Basic skills test comparison chart. (a) The 1-minute shooting scores of the students in the experimental group and the control group. (b) The scores of students in the experimental group and the control group dribbling back and forth for layups.



(a) (b)

Figure 9: Sports learning motivation test comparison chart. (a) The weekly physical education motivation diagram of the students in the experimental group and the control group. (b) The weekly physical education interest graph of the students in the experimental group and the control group.

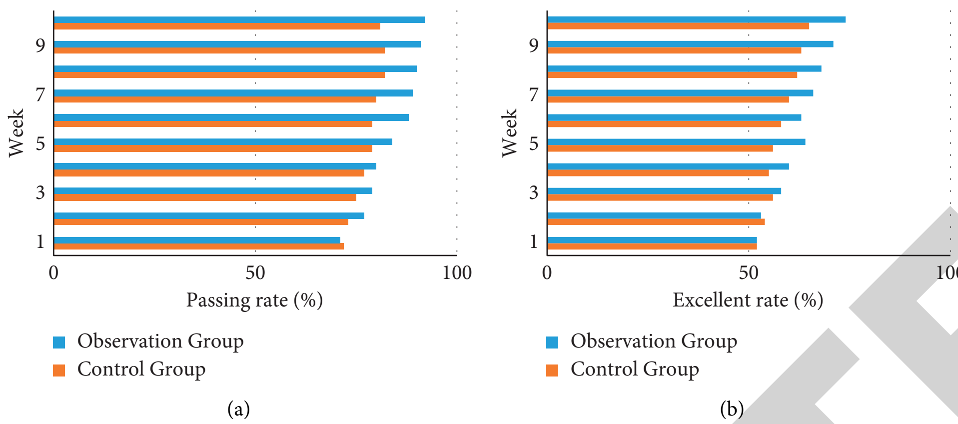


Figure 10: Shooting technique comparison test chart. (a) The passing rate of shooting skills of the students in the experimental group and the control group in each week. (b) The excellent rate of shooting skills of the students in the experimental group and the control group in each week.

greater than 0.05. It shows that the basic level of basketball between the two groups is not much different before the experiment, and there is no significant difference.

4.3. Sports Learning Motivation Test. As can be seen from Figure 9, after calculation, the average score of learning motivation of the experimental group is 4.06, and the average score of learning interest is 3.94. The average score of learning motivation in the control group was 3.82, and the average score of learning interest was 3.78. Through the analysis of variance on the 10-week test results of the students' physical learning motivation and learning interest in the two groups, it was found that the P value of the two groups of data was <0.01, and there was a significant difference. As can be seen from Figure 9, the motivation and interest in sports learning of both groups of students increased in the first two weeks. However, the learning motivation and learning interest of the control group decreased significantly in 2–4 weeks. The learning motivation of the experimental group increased greatly, while the learning interest increased steadily. During the 4–10 weeks, the learning motivation and learning interest of the two groups of students were gradually improved. This shows that the intelligent Internet of Things network computing acts on the experimental group, and the students' physical learning motivation and learning interest have a positive impact.

4.4. Excellent Rate Test of Shooting Technique. As can be seen from Figure 10, one week after the start of the experiment, the pass rate of students in the experimental group was 71%, and the excellent rate was 52%. The pass rate of the students in the control group was 72%, and the excellent rate was 52%. After the 10th week of experimental teaching, the passing rate of students in the experimental group was 92%, and the excellent rate was 74%. The pass rate of the students in the control group was 81%, and the excellent rate was 65%. From Figure 10, it can be concluded that the number and pass rate of the students in the experimental group are much higher than those in the control group. This shows that after the experimental teaching, the overall shooting skills of the students are significantly higher than those of the students in the control group.

5. Discussion

This research is through the experimental study of basketball teaching to the students in the experimental group and the control group. It explores the effect of intelligent Internet of Things network computing in basketball teaching. First, the two groups of students were tested for basic physical fitness and basic skills. After independent samples t-test and analysis of variance, the P values were all >0.05. There is no significant difference in the data, indicating that the physical fitness and basketball level of the two groups of students before the experiment are basically the same. After the start of the experiment, the learning motivation and learning interest of the students in the experimental group increased significantly, which was significantly higher than that in the control group. Using intelligent Internet of Things network computing to teach students basketball, it can be found that students' interest in sports learning has been significantly improved. This is a huge boost to skill learning. Physical learning motivation refers to the internal psychological motivation of students to participate in physical learning and sports and to maintain it to a certain extent. It has the functions of orientation, initiation, adjustment, reinforcement, and maintenance and has a significant impact on the effect of sports activities. Physical education is a psychological tendency for students to actively recognize, explore, or participate in physical activities. It is an important force for acquiring physical and health knowledge and skills and promoting physical and mental health. When students are interested in sports, they will take the initiative to participate in various sports activities and actively participate in physical exercise. The intelligent IoT network technology adopts methods such as self-diagnosis, suggestion training, and metacognitive monitoring. It enhances students' self-confidence in physical education and stimulates interest in physical education. They experience happiness and satisfaction in sports learning so that students can clarify their own skills learning goals in the process of motor skills learning. They have transformed themselves from a passive learning style of "You want me to learn" to a "I want to learn" style. The above results show that the network computing technology based on the intelligent Internet of Things can effectively improve the students' subconscious learning ability and achieve good results.

By testing the pass rate and excellent rate of shooting skills of the two groups of students, the weekly shooting skills scores are obtained. The pass rate and excellent rate of shooting skills of the students in the experimental group were significantly higher than those in the control group. Through self-diagnosis, suggestion training, and self-monitoring, intelligent IoT network computing enables students to apply self-analysis skills to solve problems. In this way, the positive emotional experience can be mobilized more actively so that students can be more aware of their own problems, and the improvement of shooting training results is more significant. This shows that the methods of self-diagnosis, suggestion training, and self-monitoring in the network computing of the intelligent Internet of Things have an important regulatory role in the training and teaching of basketball shooting skills. The learning of students' technical skills can improve, monitor, and regulate psychologically, self-confidence and self-control, so as to improve the training effect of students.

6. Conclusion

With the extensive research and application of artificial intelligence technology in the field of teaching, the intelligent Internet of Things network technology is applied to the data analysis of various teaching processes. This guides teachers to better conduct teaching and management activities. Based on the intelligent Internet of Things network computing technology, this paper studies the cultivation of the subconscious mind and the training effect of the students' physical education training. It compares and analyzes the learning motivation and learning interest, the passing rate, and the excellent rate of shooting skills of the experimental group and the control group. Research has confirmed that the intelligent Internet of Things network computing technology can significantly promote, enhance, and improve students' motor skills learning motivation and learning interest. It enables students to overcome psychological problems, such as tension, anxiety, and fear, and make them improve their psychology, self-confidence, and self-monitoring ability. This increases the pass and honor rates of students' shooting skills. Therefore, the intelligent Internet of Things network computing technology can be applied to sports technology and skill learning, which has a significant role in improving the learning effect of sports training. Of course, the article still has shortcomings. This research only conducts an investigation and experiment on the students of the 2020 physical education class of the High School Affiliated to Jiangxi Normal University, and the representativeness is relatively single. Therefore, there are certain regional limitations in application. In addition, whether the findings of this experiment are suitable for the entire high school student population, as well as the effectiveness of other sports, needs to be tested.

Data Availability

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

Conflicts of Interest

The authors state that there are no conflicts of interest regarding the publication of this paper.

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