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Retraction

Retracted: Cultivation of Innovative Ability of College Physical Education Students Based on the Internet of Things Multimedia Environment

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] B. Cai, "Cultivation of Innovative Ability of College Physical Education Students Based on the Internet of Things Multimedia Environment," *International Transactions on Electrical Energy Systems*, vol. 2022, Article ID 9239632, 10 pages, 2022.

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Research Article

Cultivation of Innovative Ability of College Physical Education Students Based on the Internet of Things Multimedia Environment

Bin Cai

Sports Department, Beijing Wuzi University, Beijing 101149, China

Correspondence should be addressed to Bin Cai; caibin@bwu.edu.cn

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Innovation is the source of social progress, and all walks of life need to cultivate innovative talents. Therefore, it is also very important to cultivate innovative ability in physical education students in colleges and universities. The purpose of this paper is to study the cultivation of students' innovative ability of physical education majors in colleges and universities based on the multimedia environment of the Internet of things and to open up a new path for the cultivation of college students' innovative ability. In this paper, a terminal collaborative indoor positioning algorithm based on RSSI fingerprint optimization was proposed to study the innovation ability of physical education students in colleges and universities. Through experimental analysis, college A was taken as the research object, and 1500 students were investigated. Innovation had a very important position in the hearts of 76.21% of students, and 3.83% of students believed that innovation was not important. In the minds of most people, innovation was still very important, which showed that schools still had a certain effect on the education of students' innovative consciousness. The experimental results obtained showed that the Internet of things technology played an important role in the research on the innovation ability of students majoring in physical education in colleges and universities.

1. Introduction

Society pays great attention to the cultivation of students' innovative abilities in physical education teaching in colleges and universities, which can demonstrate the level of comprehensive social strength and provide an endless driving force for the development of the country. The knowledge economy has become the mainstream of world economic development, and the essence of knowledge is to innovate and spread knowledge. Of course, the acquisition of this knowledge is inseparable from innovative talents. The current theoretical system for cultivating this ability is completely out of touch with educational work. Therefore, it is necessary to study this issue in this paper. The significance of this research is that it can enrich the theoretical system of cultivating students' innovative ability in physical education majors and provide some references for colleges and universities. It is also conducive to cultivating college education majors with innovative ability and building a high-quality teaching staff. This paper is a research on the cultivation of innovative ability of students majoring in physical education in colleges and universities based on the multimedia environment of the Internet of things. To this end, an experimental analysis is carried out, students majoring in physical education in three colleges and universities are taken as the experimental objects, and the Internet of things multimedia technology is used to conduct research and analysis in this experiment. The innovations of this paper are as follows: in view of society's attention to the related issues of college students' ability training, a terminal collaborative indoor positioning algorithm based on RSSI fingerprint optimization is proposed to study the experimental objects.

2. Related Work

With the development of science and technology, the cultivation of college students' innovative ability has attracted more attention from the education circle, and many scholars have also conducted in-depth research on it. Through Mzyece's analysis, the case analyzed the main challenges that

African higher education currently faces globally, explained the relationship between strategic management and innovation, and discussed innovation, entrepreneurship and new technologies in emerging markets [1]. Through Lin's research, it was learned that in order to promote the development of sports, the cultivation of students' innovative ability cannot be ignored in college physical education. In Aslam's research, technology was assisted by science, which focused more on the use of technological innovation to explain new concepts rather than the use of educational research to explain such concepts. Several new experiments from this research focused on supporting innovative ideas and encouraging learning and development in multiple fields[2]. Through the research of Appau, after controlling for the mediating effect of innovative work behavior, the impact of talent management on employee performance at the Ghana Institute of Education was examined [3]. In Bishara's research, one of the main goals of the education system was to develop innovative, independent learners who could grow to be curious, critical, creative, and able to direct their own learning [4]. The analyses of the above scholars mainly analyzed the problems of students' innovative education but did not comprehensively analyze the innovative training of college students in combination with big data technology.

In recent years, the level of science and technology has been continuously improved, and the Internet of things multimedia environment has become more prosperous. Many researchers have made achievements in this field. In Renjith's research, a trust-based security approach employing direct and indirect trust assessment techniques was implemented to provide highly secure data transmission in the network [5]. Ren B built a series of new applications with distinct IoT characteristics [6]. Juhi Jasiha E presented how to implement a battery monitoring system by using IoT to improve battery life [7]. Through Li's research, the education community has vigorously promoted the construction of smart campuses. The research analyzed the system design principles and designed a complete management system [8]. Song proposed a model and used this model to conduct experiments to achieve the purpose of privacy protection [9]. However, in the current Internet of things technology, the combination with the cultivation of campus students' innovative ability is rarely considered. Therefore, this paper conducted research on the cultivation of campus students' ability in this regard based on this technology.

3. Relevant Methods for Cultivating Innovative Ability of College Physical Students Based on the IoT Environment

3.1. Cultivation of Innovative Ability of College Physical Students. Physical education in colleges and universities should strengthen the reform and construction of teaching content, pay attention to the cultivation of students' innovative ability, establish students' subject consciousness, and cultivate students' ability to actively participate in activities [10–12]. By creating a teaching situation, students' innovative power and innovative thinking are stimulated, group inquiry and cooperative learning and teacher guidance are strengthened, and students' innovative ability is cultivated [13]. Figure 1 shows the relevant situation of college students participating in sports activities.

Innovation refers to breaking through the existing thinking mode and social environment through certain channels or means so as to propose different views or create new things [14]. Figure 2 shows the participation of college students in innovative activities.

3.2. IoT Multimedia Environment. Under the complex and changeable circumstances of IoT, it is very important to cultivate the innovative ability of college physical education students. The wireless signal collected in the mobile terminal is affected by unstable factors such as environmental obstacles and personnel flow, resulting in large fluctuations. Multiterminal cooperative indoor positioning technology based on RSSI fingerprint optimization is proposed [15]. Figure 3 shows a scenario diagram related to IoT.

Unpredictable situations such as signal changes or even weakening occur due to the influence of factors such as people occlusion and buildings in the RSS value of wireless signal strength [16]. Among them, from the signal propagation model, it can be known that

$$Q_l(d) = Q_l(d_0) + 10y\lg\left(\frac{d}{d_0}\right), \tag{1}$$

among them, d represents the actual distance, d_0 represents the reference distance, and y represents the path loss factor. The size of the RSS value received by the receiving terminal is determined according to the distance of the AP and the loss factor.

It is assumed that Y sampling points are established in the monitoring area. According to the average deployment and collection points corresponding to the indoor environment, the number of APs deployed in the area that can be used for positioning is$y$. The two-dimensional space coordinate of each sampling point is represented as$\text{Location}_i = (m_i, n_i)$, $(i = 1, 2, \ldots, Y)$, and the final data can be represented in a vector form as follows:

$$rssi_i = \left(rssi_{i1}, rssi_{i2}, \ldots, rssi_{in}\right), \quad (i = 1, 2, \ldots, Y). \tag{2}$$

Therefore, in the space, by traversing the signal strength values of Y sampling points, the fingerprint information matrix of the entire space can be obtained as

$$R_{Y\times y} = \begin{bmatrix} rssi_{11} & rssi_{12} & rssi_{1y} \\ rssi_{21} & rssi_{22} & rssi_{2y} \\ rssi_{y1} & rssi_{y2} & rssi_{Yy} \end{bmatrix}. \tag{3}$$

At the same time, there is a one-to-one correspondence between the coordinates of the location of the collection point, the collected fingerprint information and the collection time point, and each final set of information data can be expressed as

Figure 1: College students participating in sports activities.

Figure 2: Innovative activities in which college students participate.

$$LR_i = (\text{location}_i, rssi_i, \text{time}) = \left(m_i, n_i, rssi_{i1}, rssi_{i2}, \ldots, rssi_{iy}\right), \quad (i = 1, 2, \ldots, Y). \tag{4}$$

The multidimensional scaling (MDS) technique is a statistical technique used in information to evaluate the similarity of data. The difference in signal intensity between each pair of different collection point objects is used to represent the distance difference on the physical plane corresponding to the two points; that is, in a certain dimensional space, the order scale between the dissimilarity and distance between two objects in the space is used to quantify [17].

The formula for calculating the consistency coefficient is also given

Figure 3: The IoT-related scenario diagram.

$$o = \frac{\sum_{1<i,j,k,L\le Y} \operatorname{sign}\left[\left(rssi_{ij} - rssi_{kL}\right) * \left(d_{ij} - d_{ikL}\right)\right]}{\sum_{1<i,j,k,L\le Y} 1}, \quad (5)$$

among them, d_{ij} represents the physical distance between two points, and

$$\operatorname{sign}(m) = \begin{cases} 1 & m > 0 \\ 0 & m < 0. \end{cases} \quad (6)$$

At the same time, the distance between the wireless signal strengths between i, j is

$$rssi_{ij} = \sqrt{\sum_{i=1}^{Y}\left(10Y \log \frac{d_{iAQ_k}}{d_{jAQ_k}} + \vartheta_i\right)}. \quad (7)$$

In this paper, the RSSI value of the wireless signal between two objects in the space is measured, and the physical distance between the three data collection points in the space isd_{ij}, d_{ik}, respectively. The signal fingerprint information collected between points at the same time is $rssi_i = (rssi_{i1}, rssi_{i2}, \ldots, rssi_{in})$ and$rssi_j = (rssi_{j1}, rssi_{j2}, \ldots, rssi_{jn})$, respectively, and then, the fingerprint dissimilarity between these two points can be defined as

$$\eta_{ij} = \left\| rssi_i - rssi_j \right\| = \sum_{x=1}^{y} \left| rssi_{im} - rssi_{jm} \right|. \quad (8)$$

That is, the dissimilarity between the fingerprint signals between the two collection points isη_{ij} and η_{ik}, and if the fingerprint dissimilarity between the two points satisfies $\eta_{ij} < \eta_{ik}$, the physical position between the two points also satisfies $d_{ij} < d_{ik}$. Therefore, the dissimilarity matrix between nodes can be formed by the fingerprint data collected between the entities of each collection point, and the dissimilarity matrix between the Y collection points can be described as

$$F_{Y\times Y} = \begin{bmatrix} \eta_{11} & \eta_{12} & \cdots & \eta_{1Y} \\ \eta_{21} & \eta_{22} & \cdots & \eta_{2Y} \\ \cdots & \cdots & \cdots & \cdots \\ \eta_{Y1} & \eta_{Y2} & \cdots & \eta_{YY} \end{bmatrix} = \begin{bmatrix} 0 & \eta_{12} & \cdots & \eta_{1Y} \\ \eta_{21} & 0 & \cdots & \eta_{2Y} \\ \cdots & \cdots & \cdots & \cdots \\ \eta_{Y1} & \eta_{Y2} & \cdots & 0 \end{bmatrix}. \quad (9)$$

After the initial offline fingerprint signal database is established, it is relatively more complicated to manage and update the data for large-scale indoor positioning. At the same time, during online positioning, the matching fingerprint is searched in the entire offline database, which increases the amount of calculation, and the result is unstable [18]. Therefore, the K-means clustering algorithm is used in this paper to form the corresponding multilevel subregion location database [19]. A flowchart of the K-means clustering algorithm is shown in Figure 4.

In the online positioning stage, if the real-time data collected by using the terminal device at the positioning point are $[rssi_{x1}, rssi_{x2}, \ldots, rssi_{xy}]$, the Euclidean distance between the fingerprint data between the reference points in the fingerprint database and the real-time collected data is D_x which can be expressed as follows:

$$D_x = \sqrt{\sum_{j=1}^{y}\left(rssi_x - rssi_j^x\right)^2}. \quad (10)$$

Therefore, the entire corresponding distance D_x can be calculated according to formula (10), and then we can correspondingly select the reference points corresponding to

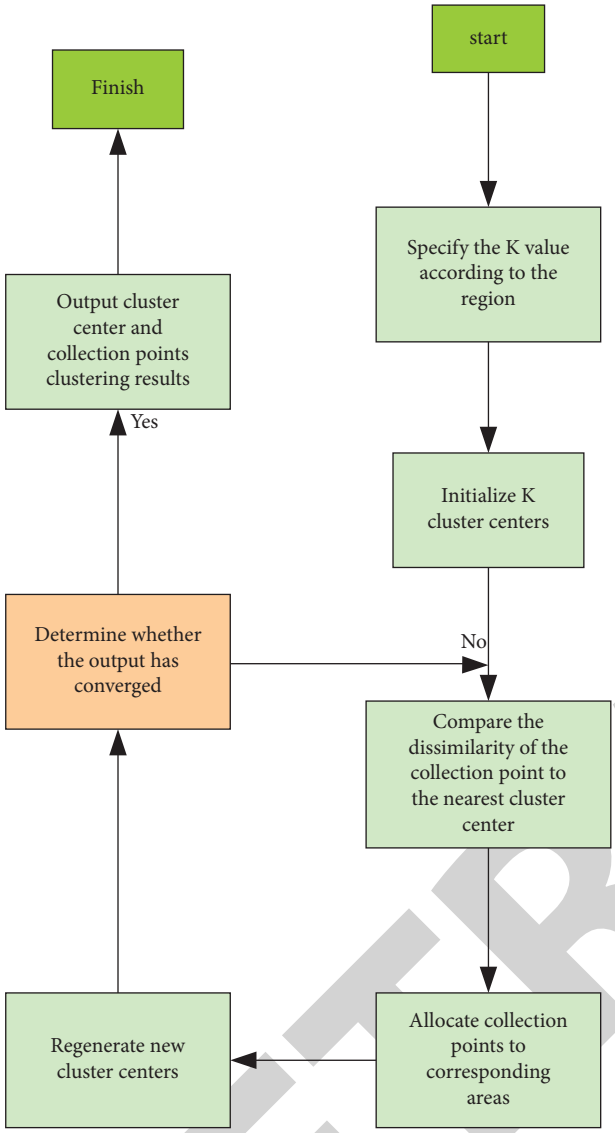

Figure 4: Flowchart of the K-means clustering algorithm.

the required K smallest fingerprints: $\text{Location}_x = (m_i, n_i)$, $(i = x, x+1, \ldots x+K)$, and then, the average value of the coordinates of the reference points can be calculated as follows:

$$(m,n) = \frac{1}{k}\sum_{i=1}^{K}(m_i,n_i), \tag{11}$$

where (m,n) represent the positioning coordinates of the terminal. When K is taken as 1, it is the nearest neighbor method, and when $K \geq 2$, it is the K nearest neighbor method. The selected K reference points have different weights and need to be weighted as follows:

$$(m,n) = \sum_{i=1}^{K}\frac{(m_i,n_i)}{\sum_{i=1}^{K}(1/D_{m+e})}. \tag{12}$$

The processed coordinates are the final positioning coordinates.

Probabilistic algorithms include Bayesian and maximum likelihood methods, which estimate values based on the probability distribution of data information [20]. The formula derived from the Bayesian formula is

$$Q(\text{Location}_i|rssi_x) = \frac{Q(rssi_x|\text{Location}_i)}{Q(rssi_x)} = \frac{Q(rssi_x|\text{Location}_i)\cdot Q(\text{Location}_i)}{\sum_{i=1}^{Y}Q(rssi_x|\text{Location}_i)\cdot Q(\text{Location}_i)}, \tag{13}$$

among them, $Q(\text{Location}_i)$ represents the probability that the positioning terminal equipment does not receive the five-risk signal, and the maximum a posteriori probability is adopted. Then, the information received by the positioning terminal equipment is calculated. According to the criterion, the corresponding position is calculated as the final coordinate value

$$(m,n) = \arg_{Q(\text{Loocation}_i)}\max Q(\text{Loocation}_i|rssi_x)\otimes. \tag{14}$$

Without prior knowledge, it can be assumed that the probability of users appearing is the same, so we obtain

$$(m,n) = \arg_{Q(\text{Location}_i)}\max Q(rssi_x|\text{Location}_i). \tag{15}$$

The value calculated in the offline phase is based on the wireless signal strength value of each reference point. It is assumed that the signal strength values at the reference point are Gaussian distributed [21]. Then, the following formula can be obtained:

$$Q(rssi_x|\text{Location}_i) = \frac{1}{\sqrt{2\pi\theta}}\varepsilon^{(rssi-\eta)^2/2\theta^2}. \tag{16}$$

Then, by the nearest neighbor method, the average value of the K coordinates with the largest likelihood probability can be obtained as the final positioning coordinates, and at the same time, the weights can be processed to obtain the terminal coordinates with high accuracy [22].

In the nonmetric phase, for any i, j, b, t 1, the existence level value calculated according to formula (16) is recorded as d_{ij}, which can be expressed as follows:

$$d_{ij}^K, d_{bt}^K = \begin{cases} d_{ij}^K, d_{bt}^K, & if\left(\eta_{ij}-\eta_{bt}\right)\times\left(d_{ij}^K - d_{bt}^K\right) > 0 \\ \frac{1}{2}\left(d_{ij}^K + d_{bt}^K\right), & \text{otherwise} \end{cases}, \tag{17}$$

among them, when judging $\eta_{ij} < \eta_{bt}$, if $d_{ij} < d_{bt}$, then $d_{ij} = d_{ij}^K$; otherwise, it needs to be adjusted.

By increasing the value of k, the new coordinates can be obtained by formula (13).

$$m_i^k = m_i^{k-1} + \frac{\chi}{r-1}\sum_{j\neq i}^{r}\left(1 - \frac{d_{ij}^{k-1}}{d_{ij}^k}\right)\left(m_j^{k-1} - m_i^{k-1}\right). \tag{18}$$

In the calculation formula of the corresponding n value, χ is the step size of the iteration. According to the Euclidean distance, the above stages are executed in a loop until the coefficient is satisfied [23].

$$\text{Stress} = \frac{\sum_{i \neq j} \left(d_{ij}^{k} - d_{ij}^{k-1} \right)^2}{\sum_{i \neq j} d_{ij}^2}. \quad (19)$$

That is, the coordinate value of the collection point and the collected RSSI vector value and the RSSI vector value collected by the positioning terminal at the point to be measured are used as the input value of the multidimensional scaling algorithm [24]. The relative coordinates of the terminal point to be measured are estimated by using this algorithm. Then, the relative coordinate values can be converted into absolute coordinates through coordinate transformation, and the coordinates located there are the last coordinate points of the terminal device [25].

4. Experiments on the Cultivation of Innovative Ability of College Physical Students Based on the IoT Environment

4.1. Experimental Design for the Cultivation of Innovative Ability of Sports Majors in Colleges and Universities. Through the analysis of the existing research results on the cultivation of students' innovative ability in physical education teaching in colleges and universities, the significance of innovative education for students majoring in physical education in colleges and universities is further understood. An experimental investigation on this issue is beneficial to the cultivation of students' innovative spirit in colleges and universities in the future. This paper takes the students majoring in physical education in school A as the research object and the students majoring in physical education in schools B and C as the control group. A total of 1500 questionnaires were distributed. With the support of IoT technology, among the valid questionnaires collected, school A recovered 496 valid questionnaires, and 99.2% of which were valid questionnaires, school B recovered 495 valid questionnaires, and the rate of valid questionnaires was 99%, and school C recovered 497 valid questionnaires, and 99.4% of which were valid questionnaires. In the questionnaire survey, a total of 8 questions about the innovative education of physical education students in colleges and universities were put forward. It mainly included the understanding of innovative consciousness, the understanding of innovative thinking ability, the understanding of innovative learning ability, and the students' understanding of innovative practice ability [26,27].

4.2. Results of the Cultivation of Innovative Ability of Sports Majors in Colleges and Universities

4.2.1. Understanding of Innovation Consciousness. Innovation consciousness is the positive external manifestation of human consciousness activities, and it is the driving force for people to carry out creative activities. For the research on innovation consciousness, there are mainly the following questions.

(1) Understanding of the importance of innovation of students majoring in physical education.

From Table 1, it can be seen that the students of physical education in college A have an understanding of the importance of innovation. 76.21% of students had a very important position in their hearts, 99 students thought that the importance of innovation was optional, accounting for about 19.96%, and 19 students thought that innovation was not important, accounting for about 3.83%. In the data of the control group, 377 students in school B thought innovation was very important, accounting for about 76.16%, 21.62% of students thought that innovation was of average importance, and 11 students thought innovation was not important, accounting for about 2.22%. In college C, the data were similar to those of colleges A and B. There were 380 people who thought innovation was very important, accounting for about 76.46%, and 21 people who thought it was not important, accounting for about 4.23%. The above data show that in the minds of students, innovation is still very important, which shows that schools still have a certain effect on the education of students' innovative consciousness.

(2) Physical education students' evaluation of their own innovation consciousness.

It can be seen from Figure 5 that the awareness of students' self-innovation awareness evaluation in college A physical education teaching was very important in the hearts of 78.63% of the students. In the control group, the number of students in college B and college C under the same conditions was 397 and 400, accounting for 80.20 and 80.48%, respectively. These students all thought that innovation awareness was very important. In their opinion, nonintellectual factors such as interest, emotion, persistence, and confidence also had a great impact on innovation ability. In school A, 91 people thought that their sense of innovation was average, accounting for about 18.35%, and 15 people thought that they had no sense of innovation, accounting for about 3.02%. This shows that most of the students surveyed in school A realize that innovation consciousness occupies a larger position in innovation ability, which is conducive to the school's cultivation of innovative talents.

4.2.2. Understanding of Innovative Thinking Ability. (1) Physical education students' understanding of innovative thinking methods.

It can be seen from Table 2 that among the students in college A, 406 believed that innovative thinking was mainly creative thinking, accounting for about 81.85%. 400 people from university B believed that innovative thinking was mainly creative thinking, accounting for about 80.81%. There were 421 people in university C who thought that innovative thinking was mainly creative thinking, accounting for about 84.71%. Among college and university A, 88 people believed that open thinking was innovative thinking, accounting for about 17.74%. In the control group, 92 students in college B believed that open thinking was innovative thinking, accounting for about 18.59%, and 71 students in college C believed that creative thinking should be open thinking, accounting for about 14.29%. However, there were others who believed that habitual thinking was innovative thinking. Two people in college A supported the

Table 1: Survey results of college physical education students' awareness of the importance of innovation.

	Very important	Generally important	Unimportant
A	378	99	19
B	377	107	11
C	380	96	21

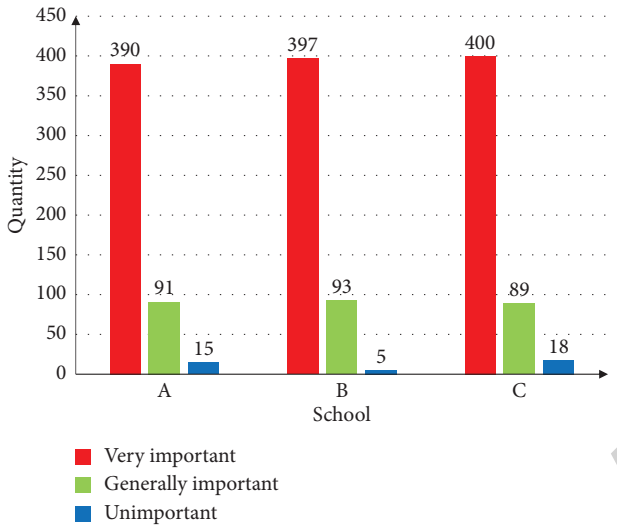

Figure 5: Results of the survey in the evaluation of physical education students' self-innovation awareness.

Table 2: Survey results of physical education students' awareness of innovative thinking methods.

	Creative thinking	Open-mindedness	Habitual thinking
A	406	88	2
B	400	92	3
C	421	71	5

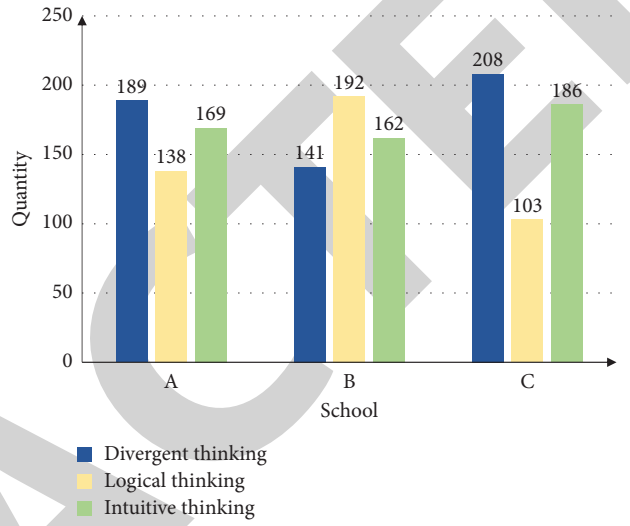

Figure 6: Survey results of the thinking situation that physical education students mainly cultivate.

idea, and 3 people in college B and 5 in college C in the control group did so. This shows that there are still some students majoring in physical education who cannot correctly distinguish and judge innovative thinking methods and noninnovative thinking methods, which, to a certain extent, indicates that physical education students need to strengthen their understanding and learning of innovative thinking.

(2) Survey results of the thinking situation mainly cultivated by physical education students in innovative thinking.

It can be seen from Figure 6 that the students in college A thought that the most important way of thinking was divergent thinking, followed by intuitive thinking, and finally logical thinking. The numbers were 189, 169, and 138, respectively, accounting for 38.10%, 34.07%, and 27.83%, respectively, which shows that in the creative thinking mode, physical education students lack divergent thinking. To a certain extent, it also shows that the direction of the school's training of innovative talents should focus on cultivating students' divergent thinking. In the control group, the students in college B believed that the most important way of thinking was intuitive thinking, followed by logical thinking, and finally divergent thinking, with 192, 162, and 141 students, respectively. In college C, most people believed that divergent thinking needed to be cultivated. The second was the need to cultivate their intuitive thinking. A small number of people thought that they needed to cultivate logical thinking. The numbers were 208, 186, and 103, respectively. The data comparison of the three universities shows that different schools have different training methods, and students have different ideas on the training methods of innovative thinking.

4.2.3. Understanding of Innovative Learning Ability. (1) Learning methods often used by physical education students.

From the data in Table 3, it can be seen that students in college A were more inclined to the direct learning method and the listening and speaking learning method and less likely to use the inquiry learning method. The numbers were 208, 193, and 95, accounting for 41.94%, 38.91%, and 19.15%, respectively. The first two learning methods are more traditional learning methods, while the latter is more inclined to innovative learning methods. The new learning method lifts the shackles of traditional learning methods, takes students as the main service object, and provides students with more platforms for free learning, which is conducive to students' divergent thinking, self-breakthrough, and more conducive to cultivating innovative thinking. On the contrary, the students of college and university A use more traditional learning methods. Looking at the control group, university B and university C, from the data point of view, the number of them is relatively small in the direct learning method and the listening and speaking learning method. In the new learning method, the number of people accounts for the vast majority. It can be seen that compared with school A, school B and school C pay more attention to cultivate students' innovative ability, do a good job in related work,

Table 3: Learning methods frequently used by physical education students.

	Direct learning method	Listening and speaking learning method	Inquiry learning method
A	208	193	95
B	107	62	326
C	99	76	322

and encourage students to actively think about new things, learn new methods, and develop in a better way.

(2) Whether physical education students have innovated their learning methods.

It can be seen from Figure 7 that most of the students in college A did not innovate their learning methods. There were 92 people who were innovative in learning methods, accounting for about 18.55%, 210 people were conducting research on innovative paths of learning methods, accounting for about 42.34%, and 194 people had no innovative ideas about this, which accounted for 42.34%. The ratio was about 39.11%. This situation shows that the work of college A to guide students to innovate in learning is not comprehensive enough, and students should improve it and pay attention to the cultivation of students' innovative learning. Different from university A, it is evident from the line chart that most of the students from university B and university C in the control group had tried to innovate their learning methods. The proportion of college B and university B was about 68.08%, and the proportion of college C and university C was about 66.80%. This shows that in sports practice, students should constantly improve themselves and improve their innovative ability.

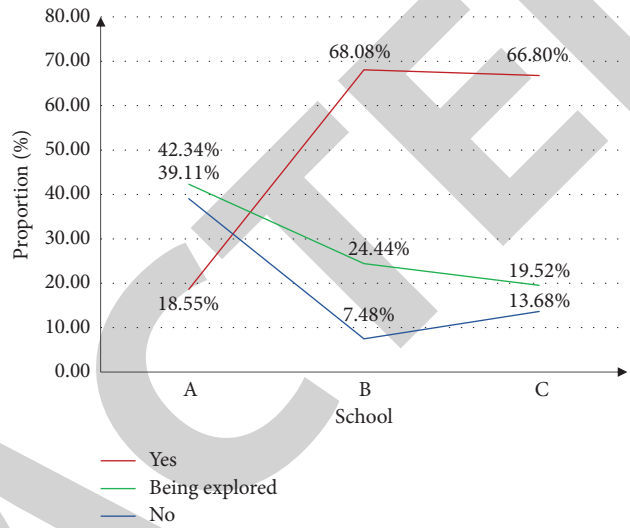

Figure 7: Whether physical education students have innovated their learning methods.

4.2.4. Students' Understanding of Innovative Practice Ability. (1) Understanding of scientific and technological innovation ability of students majoring in physical education.

It can be seen from Table 4 that 56.05% of students in college A believed that technology was very important to improve students' innovative ability. 177 people thought that the importance was at a general level, accounting for about 35.69%. However, 41 people thought that technology had no effect on the innovative ability of physical education students. In the control group, the data of college B and college C were also similar to those of college A, which showed that most students believed that technology could promote the innovative ability of students in physical education. For those students who disagree, it is necessary to make them aware that technology can drive innovation in physical education students. This is conducive to the development of relevant innovation activities and can achieve better results.

(2) Whether students majoring in physical education support the promotion of new sports equipment.

As can be seen from Figure 8, there were obvious differences in the line graphs. The majority of people supported the promotion of new sports equipment, while a few people were against it. However, in university A, 81.25% of students hold a supportive attitude, but 18.75% of students still did not support the promotion and use of new sports equipment. According to the survey, students who did not support it thought that new sports equipment was difficult to master,

Table 4: Survey results of students majoring in physical education on their cognition of innovative technological ability.

	Very important	Generally important	Unimportant
A	278	177	41
B	291	168	36
C	263	194	40

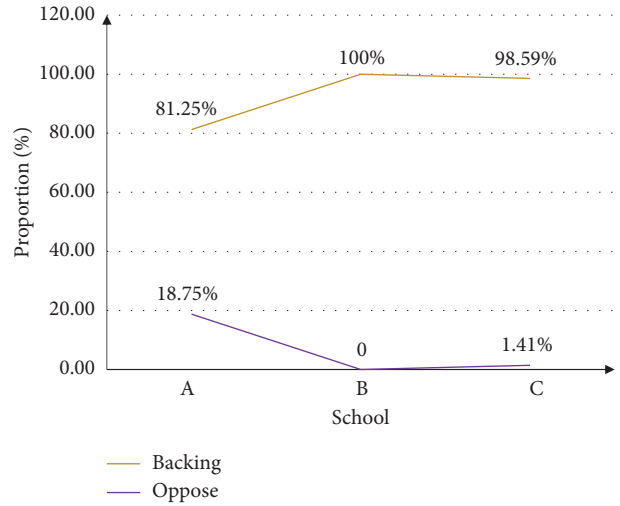

Figure 8: Whether students majoring in physical education support the promotion of new sports equipment.

and they were more accustomed to using traditional equipment. However, the process of dealing with new things is a process that needs to be tried and accepted gradually. Contemporary college students should open their minds, discover advantages and disadvantages of new equipment and traditional equipment through comparison, learn to accept new things, and not rest on their laurels.

To sum up, through this experiment, the cultivation methods of students' innovative consciousness of physical education majors have been learned. College A and university A should still pay attention to the cultivation of students' innovative consciousness and strengthen the transformation of students' thinking, which can improve students' innovative consciousness and speed up their acceptance of new things to a certain extent. This is conducive to the future students of this major to carry out innovative teaching methods at work and cultivate innovative students. This experimental investigation is helpful to the teaching reform of University A and provides corresponding reference content for the cultivation of college students' innovative ability.

4.3. Results of Improving the Innovative Ability of Sports Majors in Colleges and Universities by Improving IoT. Through the statistical analysis of the above charts, the innovative ability training plan for college sports students based on the multimedia environment of the Internet of Things is obtained. There are many factors that affect students' innovative consciousness. Different research methods have different research focuses. The cultivation of innovative ability of students in physical education in colleges and universities is an important subject studied by many experts and scholars. In the article, through the RSSI algorithm under the Internet of things technology, 4 major problems and 8 small problems affecting students are analyzed, and the conclusion is feasible. However, there is still room for improvement in processing. First, the sample size of this study is limited. It is recommended to increase the sample size to ensure the accuracy of the experimental results. Second, this article is only a comparative analysis of schools of the same type and does not analyze the results from the past and the present in time. Corresponding data can be added, and in terms of time, the past data are combined for comparison.

5. Discussion

Due to the development of higher education, the education community has paid more attention to the discipline of sports science. Combining with the Internet of things technology, this paper analyzes the benefits brought by the innovation of the physical education major of school A to students from multiple perspectives. This article is devoted to researching the application of IoT technology and applying it to the research on the cultivation of students' innovative ability in college physical education. This is not only an expansion and extension of the application scope of IoT technology but also a new attempt to cultivate the innovative ability of sports students. Through the research and analysis of the innovation consciousness of college students, the effectiveness of IoT technology and the RSSI algorithm is reflected.

6. Conclusions

Based on the Internet of things technology as the main research method, this paper takes university A as the research object, university B and university C as the control group for experimental analysis and selects 8 questions to conduct a questionnaire survey on 1500 students. Through the investigation, the following results are obtained: whether students have innovative consciousness or the level of innovative ability is related to the school's training. If students have strong awareness of this aspect, it means that the school has carried out more comprehensive work in this aspect. If the students' innovative consciousness is weak, the school should strengthen the training in this regard. From the research of these 8 issues, the role of IoT technology in the innovation and cultivation of physical education students in colleges and universities can be highlighted. Aiming at the 8 problems in the experiment, the Internet of things technology is used to analyze the innovation ability of college students. The Internet of things technology has shown a certain positive effect in this experiment.

Data Availability

The data of this paper can be obtained from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

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