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Research Article

The Cultivation Strategy of Children's Football and Sports Core Literacy under the Background of Big Data and Internet of Things

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Improving children's physical and mental health is the main guarantee for quality education in my country, and it is also a key aspect to promote the all-round development of children and adolescents. Football is one of the most influential sports in the world today. It is a perfect fusion of speed, strength, endurance, skills, tactics, and teamwork spirit. The development level of football can reflect the overall physical condition of a country and the overall competitive level of the team to a certain extent. After a long period of great depression and recession in Chinese football, the national sports and education departments have gradually put the focus of their work on football, and school football education has also emerged to meet the needs of the development of the times. This paper mainly conducts in-depth research on the cultivation strategies of Chinese children's football science core quality under the background of big data and the Internet of Things. This paper uses a questionnaire survey to obtain the research data. All the questionnaires are about the current situation of the cultivation of the core literacy of children's football sports under the background of big data. Reliability analysis was carried out, and the analysis results showed that the questionnaire survey was effective. The current situation of cultivating the core quality of Chinese children's football discipline has been studied, and through the survey, it is concluded that we should pay more attention to the cultivation of the core qualities of football disciplines. This paper conducts a questionnaire survey on the cultivation of children's football literacy in the context of big data and the Internet of Things and then based on the findings of the questionnaire survey finds problems and provides targeted training strategies to improve children's football literacy.

1. Introductions

Football is a sport with great participation and awareness worldwide [1, 2]. After the reform and opening up, my country's football has also begun to actively absorb the advanced concepts of foreign football and has hired a number of outstanding foreign coaches [3, 4]. Influenced by national policies and media reports, many Chinese football fan groups have been established in China, and Chinese football has gradually grown. However, through repeated search, attention, and waiting, Chinese football has repeatedly lost to the Olympic Games and the World Cup, while the fans have become more and more silent, because the level of football in our country has been quite different from the leading countries in the world. Even in Europe, it is

only in the middle of the second and third categories of clubs. But for a long time, our country's football level has not been able to improve [5, 6]. Football is an important part of sports civilization and an important manifestation of my country's soft power, and the influence of football is far beyond its own value. To achieve the goal of revitalizing China, China cannot do without strong soft power. However, the current situation of my country's backward football level is very inconsistent with the national goal of realizing this dream and building a sports power. Therefore, it is urgent to improve the current situation of football development and improve the football level of development [7, 8].

For the purpose of studying children's soccer coaches, some researchers suggest that organizations that practice

children's soccer skills should focus on the games of greatest interest. They believe that children should be the main body of activities; teachers must fully mobilize children's interest in activities and support them to encourage them, in line with the guiding ideology of entertainment, starting from children's characteristics, through children-centered toys, games, and processes that engage children in activities that interest them [9]. In this way, children's interest in football practice is greatly improved, and children have more opportunities to participate in football activities [10, 11]. Some researchers also pointed out that school football education also has its own regularity [12, 13]. Students in the enlightenment and foundation stages are generally between the ages of six and nine. This stage focuses on cultivating their interest and firstly training tactical skills and physical quality, which is the basis for students' basic teaching and skill training and the overall improvement of physical quality in the future [14]. In the current coaching process, many football schools have chosen a form of competition guided by school basketball training, providing endless fun training and football fun. In addition, some scholars said that among youth football coaches, coaches have a healthy, broad, and concentrated tendency, which can stimulate and cultivate students' interest in sustained and effective football [15]. To sum up, there are many research results on children's football training, but less research on related core literacy training strategies.

Tao designed the strategies for primary school students to play ball games based on the requirements of core literacy, and the whole process was carried out through a theoretical summary [15]. Xing sorted out the current situation of primary school sports gamification teaching, which used the data of other scholars, combined with the data to give the corresponding teaching plan [16]. Binxin studied the teaching strategies of physical education in higher vocational colleges and used the method of case study to analyze the relevant strategies [17]. Hao sorted out the innovation scheme of physical education courses under the core literacy and gave the best course implementation scheme based on the latest theories [18]. However, most of the above studies are mainly based on theoretical analysis, without actual questionnaires, and also lack strategy design in combination with new technologies. It is urgent to consider the combination of new technologies such as big data and the Internet of Things.

This paper studies the training strategies of children's football core literacy under the background of big data and the Internet of Things and then carries out a survey, draws relevant conclusions through the results of the questionnaire, and provides a basis for the development of children's core literacy training strategies.

2. Research on the Training Strategy of the Core Literacy of Children's Football Sports Discipline

2.1. Analysis of Core Literacy Characteristics

2.1.1. Personality and Sociality. Functionally, basic literacy has both personal and social values. Basic literacy must first reflect individual needs and guarantee students the support they need to study, live, and work successfully and at the same time meet the needs of social development; promote economic growth, political democracy, and social and cultural well-being; and achieve good social functions. Therefore, basic literacy is a basic literacy that has a positive impact on both the individual and the society, which integrates the needs of both and is ultimately reflected in the development of personal literacy [12].

2.1.2. Formative and Scientific. From a human perspective, basic literacy is nutritious and scientific. That is to say, it is possible for human beings to cultivate basic literacy, and it is scientific to cultivate basic human literacy. First of all, literacy is an innate human development, which mainly comes from acquired consciousness formation and learning, and is acquired through long-term good nutritional practices. At the same time, basic literacy is the innate foundation, and its development is not absolute. Secondly, "science" is an important feature, because education is undoubtedly a science, and the pursuit of basic literacy should be "based on the laws of students' physical and mental development and the laws of educational and educational activities" [13].

2.1.3. Comprehensive and Practical. Starting from the "demand orientation" of basic literacy, it can be analyzed as comprehensive and practical. First, the current diverse needs of individuals and societies have led to a comprehensive system of key indicators of literacy, which is a full range of environmental support to provide people with a successful life. In addition, the representation of some basic literacy indicators at home and abroad generally realizes the integration of knowledge, skills, attitudes, cognitive and noncognitive factors, explicit and implicit factors, and individuals, covering all other literacy. Second, foundational literacy has a prominent workflow orientation that is relevant to the problem to be solved and that is distinct and interrelated with the social situation. Therefore, basic literacy is not a mechanical connection of economic knowledge, political education, and cultural knowledge, but an organic combination of various elements, rather than a simple combination of knowledge, skills, and attitudes. The various elements of basic literacy are interrelated in a specific situation and operate dynamically and comprehensively, providing huge utility and practical effects for human development and social progress [14].

2.1.4. Times and Nationality. Basic literacy is a concept related to a specific time and place, the characteristics that change with time are called "seasons," and the characteristics that adapt to local conditions are called "nations." The first is "basic literacy," also known as "21st century literacy," which answers the question of what kind of people should be trained to promote self-realization and social development in the new era of globalization and informationization. It also has the performance and characteristics of the times. Second, there is no global era framework in the world. Every country and region will build a basic indicator system with

national characteristics in the new era, so the basic core literacy also has national characteristics.

2.1.5. Basic General Use. From the point of view of "fundamental meaning," basic literacy is basic and universal. First of all, basic literacy is the traditional basic literacy oriented by modern basic education, and it is the premise for the formation of other forms of education. It is fundamental and provides necessary and ongoing support for human development. Second, basic literacy is multifunctional, transferable, broadly applicable to a wide variety of people and situations, and universal literacy. At the same time, it should be noted that basic literacy is related to specific people or specific situations to a certain extent, and its universality is not absolute.

2.2. Big Data Literacy

2.2.1. Applying Data to Improve Educational Evaluation. In the era of big data, it is objective and comprehensive to use sound application data for doctrine evaluation. School learning evaluation is mainly based on test scores, mostly cumulative, and the understanding of students is one-sided. In the era of big data, teachers need to be able to use big data technology to monitor, record, process, and analyze each student's learning data and its educational data. This kind of multivariate data not only allows teachers to review their own educational abilities but also allows teachers to evaluate students more objectively and accurately.

2.2.2. Applying Data to Optimize Educational Organizations. In the era of big data, educational institutions implementing data optimization are flexible and open. Teachers need to observe and record nonintelligence factors based on big data technology. For example, teachers conduct group analyses on students' knowledge base, cognitive characteristics, and learning interests.

2.2.3. Ability to Analyze Educational Data. Before analyzing the data, the teacher firstly identifies the data objects to be analyzed and the ability to eliminate problematic data. Second, teachers must be able to choose the most appropriate data analysis tool, depending on the type, structure, and purpose of the data they receive. Among them, data reliability analysis refers to data acquisition channels, data measurement errors, and teachers' analysis of data reliability and validity.

3. Investigation of the Current Situation of the Cultivation of Children's Football Sports Core Literacy Based on Big Data

3.1. Research Purpose. This paper is based on the background of basic literacy, the specific application of the current high school physical education and health curriculum, and whether it can include the elements of basic physical literacy: sports performance, healthy behavior, sports ethics, etc.

Finally, through the overall understanding of physical education and the application of high school health courses,

TABLE 1: Descriptive results for each dimension of core competencies.

First-level indicator	Secondary indicators
Athletic ability and habits	Athletic ability
	Exercise habits
Health knowledge and behavior	Health knowledge
	Healthy behavior
Sports emotion and morality	Sports emotion
	Sportsmanship

TABLE 2: Student's basic athletic ability survey results.

	A	B	C
Involving most of	58.7%	57.9%	57.6%
Can involve	28.9%	29.3%	30.7%
Involves a small part	9.9%	11.2%	9.8%
Cannot involve	2.3%	1.2%	1.1%

the basic content of basic physical literacy and the basic literacy methods and paths of fitness students are explored in combination with a certain reality.

3.2. Questionnaire Design. According to the research content and purpose of this topic, this paper will actively collect relevant data for reference and firstly create a survey according to the design principles of the survey. After consultation with relevant experts, the content of the questionnaire will be improved and revised to prepare the final questionnaire. The questionnaire is divided into a teacher survey and a student survey.

This paper conducts a questionnaire survey on the "Myers Cup" campus football super league "Jinshui Campus Football Competition" and adopts the method of local distribution and recycling. The reliability of internal consistency is usually assessed using the Kuder and Richardson method and Cronbach's alpha coefficient:

$$\theta = \frac{N}{N-1}\left[1 - \frac{\sum_{i=1}^{n}\alpha_i\beta_i}{P_i^2}\right],$$

$$\theta = \frac{N}{N-1}\left[1 - \frac{N-\bar{X}}{NP_t^2}\right]. \tag{1}$$

Among them, N is the number of items in the questionnaire, P_i^2 is the variance of the score of the ith question, and P_t^2 is the variance of the total score.

4. Analysis of Questionnaire Results

4.1. Descriptive Results of Each Dimension of Core Literacy. In addition, referring to the research theories of many experts and scholars, the basic literacy of physical education is divided into three parts: sports skills and habits, knowledge and healthy behaviors, and sports feelings and ethics (see Table 1).
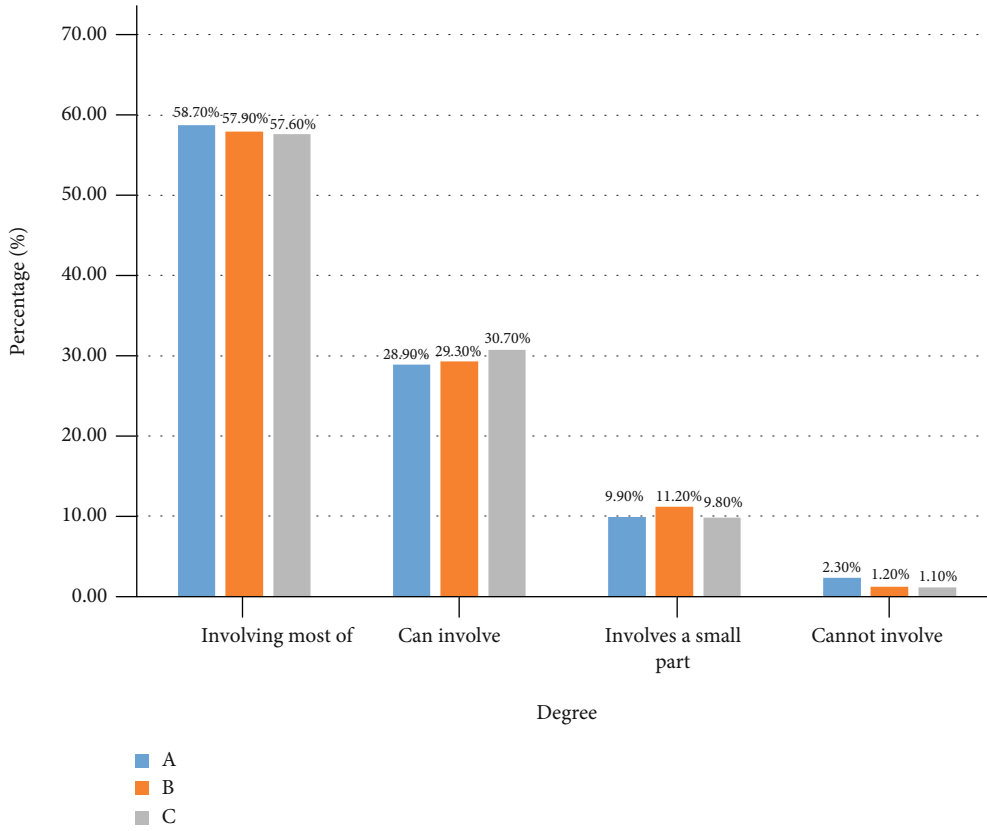
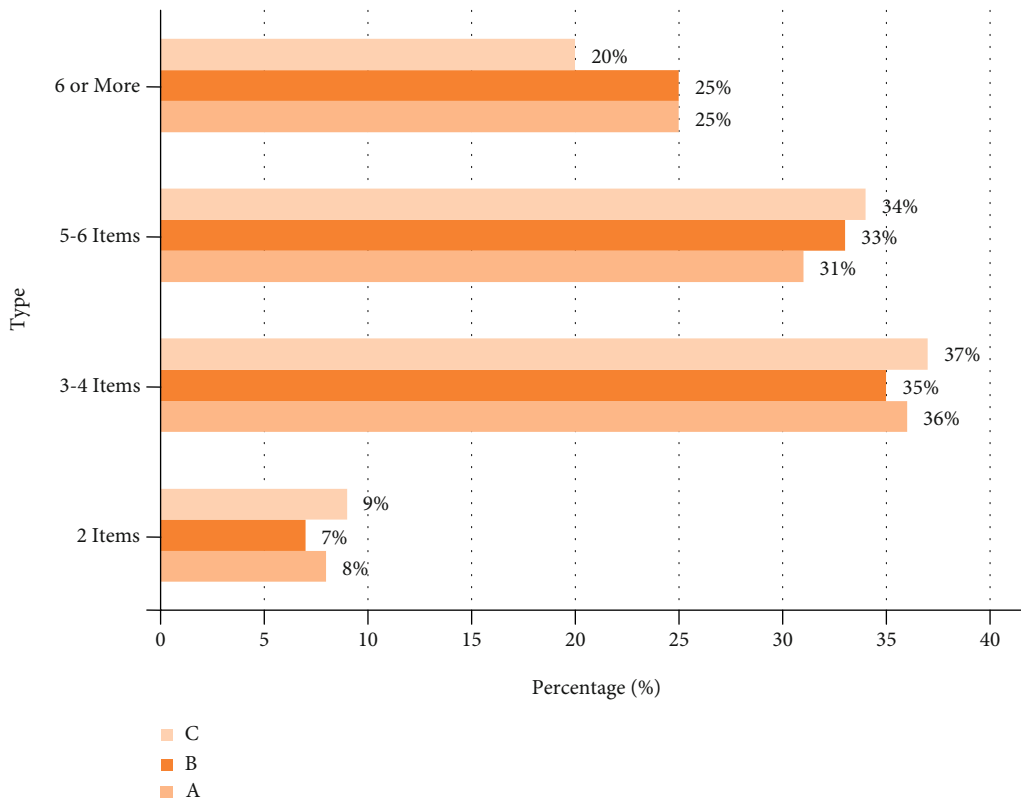FIGURE 1: Student's basic athletic ability survey results.

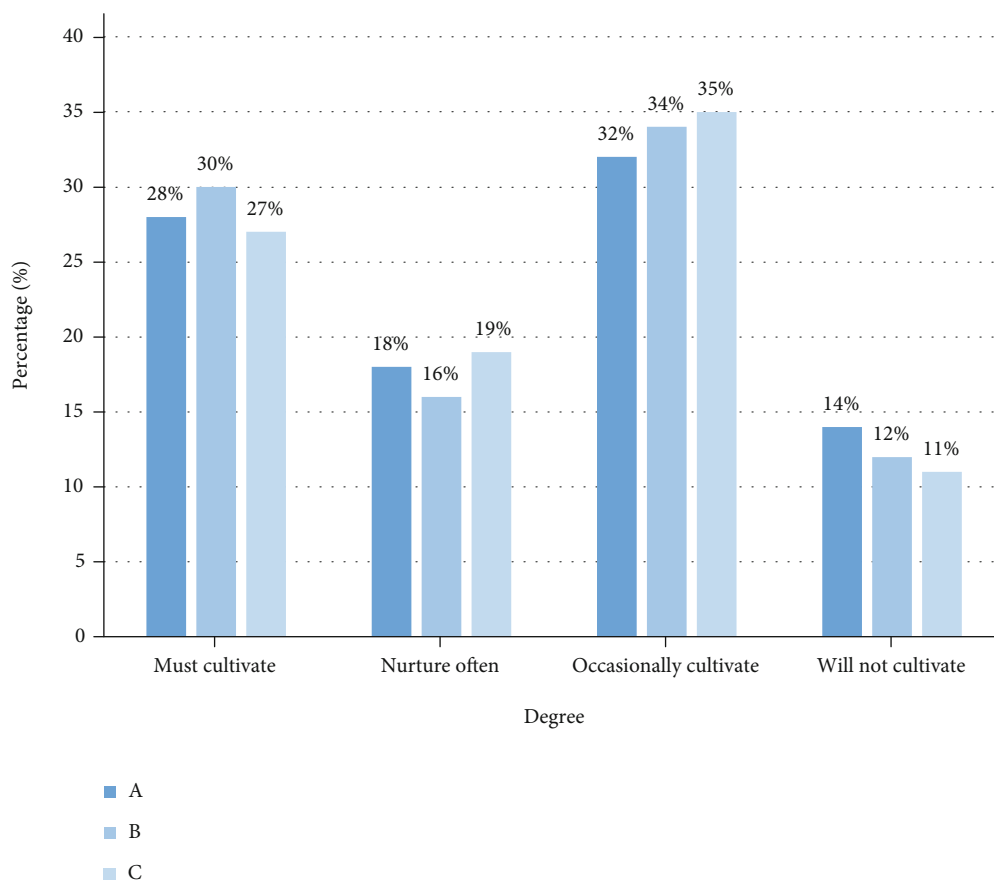FIGURE 2: New skills teaching survey results.

FIGURE 3: Survey results of students' ability to exercise independently.

4.2. Analysis of Results. Due to the length of this article and the current situation of training mainly relying on teachers' feedback to evaluate, this time, no detailed design of the students' questionnaires was carried out. By arranging the results of the questionnaire, we can get the relevant basic sports ability of students. The results are shown in Table 2.

In Figure 1, A, B, and C represent the responses of the coaches and students of the three surveyed developed primary schools, respectively. As shown in Figure 1, the teachers who participated in the teaching of basic physical fitness in physical education classes accounted for more than 58% of the total number of participants, and the teachers of basic sports education accounted for 29%. Only a few people can be involved in the ability of the human body, which is equivalent to 10%; the basic motor skills of the human body cannot be involved in physical education, only 2% of teachers.

Cronbach's alpha (Cronbach's alpha or Cronbach's α) is a statistic that refers to the average of the half-half reliability coefficients obtained by all possible item division methods of the scale. It is the most commonly used reliability measurement method. It was first named by American educator Lee Cronbach in 1951. The alpha coefficient of this paper conforms to the theoretical requirements for the coefficient, so the questionnaire in this paper is reliable.

As can be seen in Figure 2, 36% of teachers who participated in the survey taught students three to four new skills

in a semester. 32% of teachers teach students 5-6 new skills in a semester. Only 8% of teachers taught only two new skills in six or more semesters. In Figure 2, A, B, and C represent the responses of the coaches and students of the three surveyed developed primary schools, respectively.

As can be seen from Figure 3, only 28% of teachers said they would definitely develop their students' independent practice skills, 18% did so regularly, and 34% said they sometimes had the opportunity to develop students' independent practice skills. In Figure 3, A, B, and C represent the responses of the coaches and students of the three surveyed developed primary schools, respectively.

As can be seen in Figure 4, 32% of teachers surveyed could develop students' awareness of the rules of each classroom. 56% of teachers can teach students how to follow classroom rules.

4.3. Core Literacy Training Strategy

4.3.1. Professional Quality of Teachers. As a teacher, there is a need to demonstrate higher levels of these six core competencies, as students need to improve on the six recommended math core competencies. First of all, it is necessary to build a high-quality, professional, and innovative training team at the national level. This is reflected in the further improvement of the training and teacher training system, the active training of Master of Education, and the increase
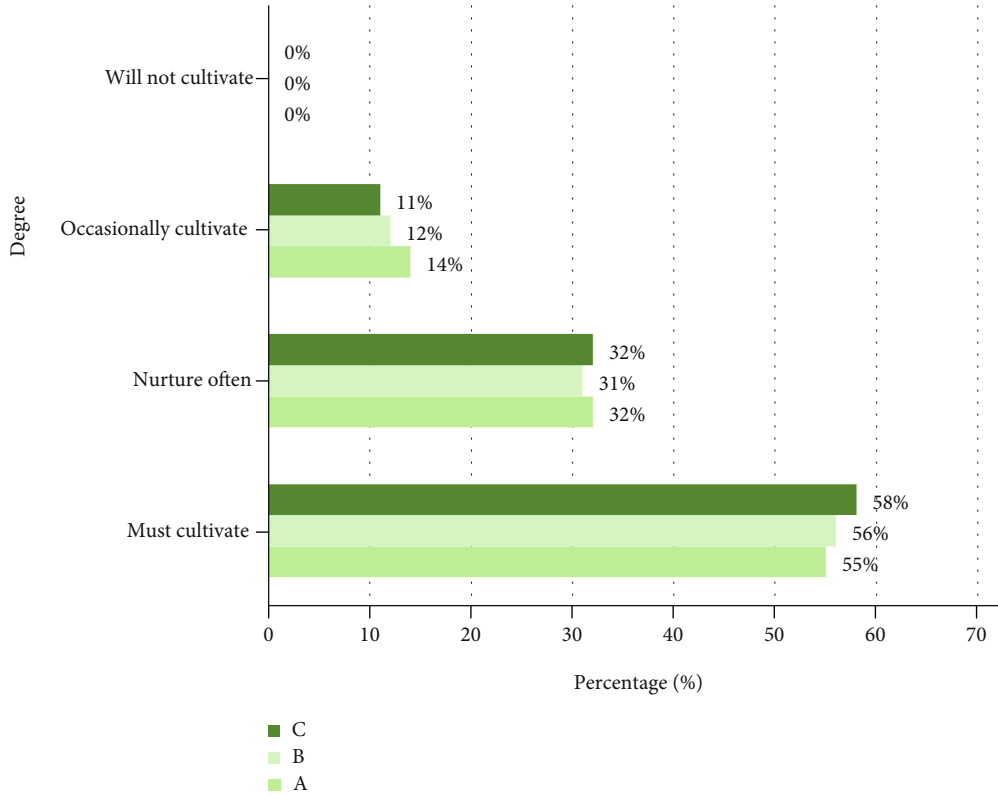
FIGURE 4: Survey results on the cultivation of students' awareness of rules.

of Doctor of Education. Secondly, it is emphasized to strengthen organizational guarantees and financial guarantees to ensure that policy measures are effective. In addition, it is necessary to standardize the evaluation mechanism of teachers in the existing education team, so that truly talented teachers can be treated and respected as they should. Finally, individual teachers need subjective efforts; explore the path of self-development; strive to become teachers of the new era combining education, scientific research, and management; actively participate in teacher training; participate in educational research; review teaching in a timely manner; and develop their professional skills.

4.3.2. Standardized Evaluation. There is a strange phenomenon in education right now. Schools and teachers continuously conduct various tests to assess student learning and assess the role of promoting teacher and student development. The introduction of standardized assessment is not to increase the number of examinations but to pay more attention to the development and progress of teachers and students in the process. Teachers need to reevaluate their teaching process and constantly adjust their teaching behavior according to their own teaching results. Students need to form a correct view of self-evaluation and reexamine their own learning situation from the perspective of development. Therefore, the concept of normalization must be deeply rooted in the hearts of the people and penetrate all aspects of the educational process. It is hoped that evaluation can change the situation of focusing too much on "projection"

and make evaluation play a better role in motivating and promoting.

5. Conclusions

This paper studies the cultivation strategies of the core literacy of children's football and sports under the background of big data and the Internet of Things. The main goal of this paper's questionnaire survey is to sort out the current situation of children's football sports training under the background of big data, which involves sports performance, healthy behavior, sports ethics, and other elements. The questionnaire survey is evaluated through professional theoretical methods and coefficients. Data can be trusted. 32% of the teachers surveyed can cultivate students' awareness of rules in every class; 54% of teachers can often teach students how to obey the rules in class; a small number of teachers are in this aspect not doing well enough.

Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding authors on reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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