

Analysis and Research on the Scientific Training of Campus Football Players under the Background of Big Data

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Abstract: China has now entered the era of big data. With the continuous development of big data technology, through the combination of big data and the new model of campus football player training, the key period of campus football players can be effectively discovered and cultivated during the campus period. How to find and train football talents on campus is the only way to revitalize Chinese football. At present, the research on the scientific training mode of campus football players mainly focuses on the research and analysis of various aspects. Research on the training model of campus football players based on "big data" has gradually emerged.

1. Introduction

The characteristics of scientific training of campus football training talents under the background of big data are mainly reflected in the following aspects. The information collection of campus football training talents is comprehensive which can fully reflect the structure of athletes' competitive ability and the possibility of future development. As much information as possible, to avoid the of scientific training of athletes caused by the traditional subjective judgment. The dynamics of information collection and collation. The biggest advantage of the construction of the campus football training talent database is that it realizes the dynamic management of athlete information. By establishing a dynamic curve of personal development, any individual indicator of the athlete can be dynamically inferred to confirm the future development. Potential, which has a high reference value for the long-term development of campus football training talents. The integration and integrity of the data information content. The various database information of campus football players is not a single, but a system as a whole. The competitive ability of athletes in terms of skills and tactics should not be taken as the sole indicator of investigation. Multidimensional indicators should be comprehensively considered [1].

2. The Brief introduction of football player training football risk management under 2 big data

2.1 The Big data concepts

Big data refers to a data set that is large enough to exceed the capabilities of traditional database software tools in terms of acquisition, storage, management, and analysis. It has a massive data scale, fast data flow, diverse data types, and value density. Four major characteristics. Big data is used in scientific research, which can solve the problems of using information surveys in the past and random sampling surveys in the process of data analysis [2]. Big data depends on the two basic conditions of computers and the Internet. It can conduct research and analysis on all the data information obtained, which fully reflects the authenticity of the data results.



Figure 1. Application of big data analysis method in football

2.2 Advantages of Big Data in Football Player Training Risk Management

Obtaining training risk information exposes its limitations. In the information age, various advanced technologies have emerged endlessly. Big data has been used in many fields due to its large amount of information and its strong information processing characteristics. In recent years, the scientific training of campus football players has brought a lot of risks to officers and soldiers, and there are many problems. What can't be ignored is that the trainers' lack of anticipation consciousness about the training risks of trainees is relatively lacking [3]. Therefore, adopting the research idea of combining big data technology and risk management theory to study the risk management of campus football players' scientific training can improve the scientificity of campus football players' scientific training, reduce training risks, and better prevent training risks and cope with risks.

The advantages of big data in other fields have been recognized. In the research of school football player training risk management, it can replace traditional methods such as questionnaires, interviews and observations to collect information. This method has the ability to store and process information in large quantities, solves the limitations of past sampling surveys, and draws more realistic conclusions. It has a variety of data types, structured data and unstructured data, which enriches the ability to process data information. It also has the ability to process data at high speed, and can quickly feedback information.

Table.1. Analysis of information collection tools based on big data

Equipment name	Equipment type	Information collection duration	Collection period	Whether information collection	Collection type
Mobile phone	General	Short	All day	Often	Interactive
Mobile phone	General	Short	All day	Few	Communicate
Camera	General	Short	In training	Few	Communicate
GPS locator	Professional	Long	All day	Often	Interactive
Sensor	Professional	Long	In training	Few	Communicate
Mini-camera	Professional	Short	All day	Often	Communicate
ECG monitor	Professional	Long	In training	Few	Interactive
Logger	Professional	Long	All day	Often	Communicate

3. Application of 3 big data in risk management of scientific training of campus football players

In the process of collecting big data information, you can use the corresponding tools, such as bar code, two-dimensional code, sensors, wearable devices, smart devices and other information collection tools, to collect data for the training of the trainees in multiple ways. The advantages of big data are self-evident. In actual campus football risk management research, it can track and record the training process of the trainees, provide all training information for the trainees, and let the

trainers reasonably control the movement [4]. Training volume, exercise training load, exercise training intensity, prevention of sports training injuries, and evaluation of trainee training. On the other hand, based on the massive training information collected by the trainees, risk analysis and assessment are conducted, and scientific countermeasures are proposed.

3.1 The Using Big Data Technology to Build Databases and Platforms

With the rapid development of the current Internet economy, big data plays an important role. In the process of training, make full use of big data technology, establish various information resource libraries and powerful platforms for customers, continuously optimize customer shopping experience, and provide scientific basis for enterprise development decisions. In terms of campus football players 'scientific training management, it is necessary to keep abreast of the change of thinking mode brought by the era of big data, use big data technology to give play to its function of quickly collecting, disseminating and analyzing massive data, and comprehensively collect trainees' various sports training Relevant information, such as heart rate, blood glucose, urine, training load, training volume, training items, proprioceptive feelings of trainees, etc., build a database and related support platform to provide important basis and guarantee for later research and analysis [5].



Figure 2. Perform scientific football training risk identification and assessment *The Using massive data to identify and evaluate training risks*

Through the training information collection of trainees and the use of big data technology, trainees are given risk identification guidance. Through previous database information analysis, the system can identify which values the trainee's performance indicators will have, and assess the probability of a risk event; the system can identify the training content, training difficulty, and training intensity of the trainee. Generate risks and evaluate the probability of risk events; the system can identify whether the training plan of the group training staff is scientific and reasonable, and the training environment is suitable for current training, and evaluate the probability of risk events [6].

3.2 The Using data analysis to propose training risk response measures

Risk response is one of the core links in risk management research, and it is a specific method and means to resolve risk events. Scientific response measures are an important part of guiding scientific training. Big data has the function of quickly processing data. Using the information in the database to conduct scientific research and analysis, it can reasonably respond to the risks that football players may have during training, guide training how to avoid or reduce risks, and provide specific countermeasures. Laying the foundation for scientific training and safety training

4. Scientific training measures for school football players

It is the most important link to carry out football on campus, strengthen the scientific training of athletes, and improve their physical fitness. How to strengthen scientific training and improve the efficiency of scientific training is an important issue that coaches must seriously study and solve. This requires coaches to focus on studying and researching scientific scientific training theories and methods, starting from the physical and mental development characteristics of campus students, and

realizing football team members. Increased fitness and interest in football. The two major aspects of scientific training are physical training and specialized training. The main contents of physical training are scientific training, scientific training, speed training, sensitive training, and flexibility training. The special training here refers to the special training of football, which is different from the scientific training of track and field, mainly because the track and field are regular sports, and football is more of great uncertainty. Therefore, the scientific training of campus football players should emphasize physical training.

4.1 The Speed training is mainly to improve the athlete's physical performance during fast movement

Football requires high speed. Athletes should be able to move quickly, move quickly, and respond quickly. Therefore, coaches should practically formulate scientific training programs for athletes, focusing on reasonable arrangements for training content and no compromise in training. Put it in place without a hitch, in order to achieve the effect of fast movement of athletes in the game, complete the clean football action, without dragging the water, quick response to various situations in the game. In this regard, the coach can use the short-distance repeated acceleration training training method to improve the athlete's short-distance curve shift running sprint speed. In the fast completion of the football action training, we must ensure that the technical movements do not deviate, focusing on training flexibility and completing the movement speed.

4.2 Scientific training is mainly to improve the physical fitness of athletes for a long time

The continuous supply of sports energy by anaerobic and aerobic football is a distinctive feature of football. As far as anaerobic scientific training is concerned, coaches must do the arrangements of intensity, time and interval time when organizing athlete training. It is scientific and reasonable. The specific requirements are that the intensity should be appropriately large, and the training time should be appropriately short. The coach should make reasonable arrangements according to the physical and mental characteristics of the students on the campus, the content of the training, and the time. Aerobic endurance is the short board of campus students. This is their weak link. This "short board" needs to be compensated by strengthening long-distance running. The method is to combine continuous training with intermittent training.

4.3 Scientific training is mainly to improve athletes' leg strength and explosive power

Campus football players are in a period of vigorous growth and development. During this period of scientific training, we must pay attention to the issue of limits. We must not strengthen our strength. If this is the case, it will be counterproductive. The scientific training of football players focuses on the two aspects of enhancing leg strength and boosting explosive power. At the same time, it is necessary to strengthen the training of waist, neck, arm, abdomen, and back strength.

4.4 Scientific Training Football Players' Flexibility and Sensitivity

Many movements in football require athletes to complete them in an instant. This requires the athlete's body to have good flexibility and sensitivity, and both flexibility and sensitivity are related to strength and speed. The campus stage is to develop athletes' body flexibility. The best period to improve sensitivity, so the coach should strengthen the training of athletes' flexibility and sensitivity, further strengthen the speed and strength, and promote the overall improvement of physical fitness.

5. Application of big data in football player training

5.1 Analysis of training data for football players

The training of football players is relatively boring, and the technical and tactical requirements of the players are relatively strict. In daily training, the coach must compare and analyze various competition and training data. The accuracy and timeliness of analysis results generated by traditional manual observation, collection, and analysis of data are limited. The application of big

data with computer technology as the core saves labor and improves the accuracy and refinement of analysis during training. Football research and teaching staff use technical and tactical data collection and analysis, use highly accurate data analysis models or software, and use evaluation and interpretation models to apply the data analysis results to subsequent football player training, analyzing different participants, different The pros and cons of the competition team can be analyzed to restrain the competitors' strategies and improve their skills and tactics. The data analysis results provide decision-making basis for coaches to provide training plans suitable for team members and effective implementation of competition technical methods.

Football is the most advantageous competition item in Chinese football. With the help of a new ball volleyball sensor, the athlete's swing skills can be detected in real time in six dimensions, and the detection data is fed back to the background simulation processor in real time. The software analyzes the radar chart and analyzes the training content. The arrangement, the number of hits, the ball trajectory, energy consumption and training time are displayed visually, forming a huge amount of analytical data. In addition to analyzing athletes 'hitting characteristics, offensive strategies, and physical conditions, the monitor can capture and analyze movement characteristics in real time. The coach can quickly and comprehensively analyze the real-time data of the overall sports conditions of the athletes, reasonably optimize the technical movements, and reasonably analyze the athletes' performance based on the analysis results. Play style and tactics to set a clearer direction.

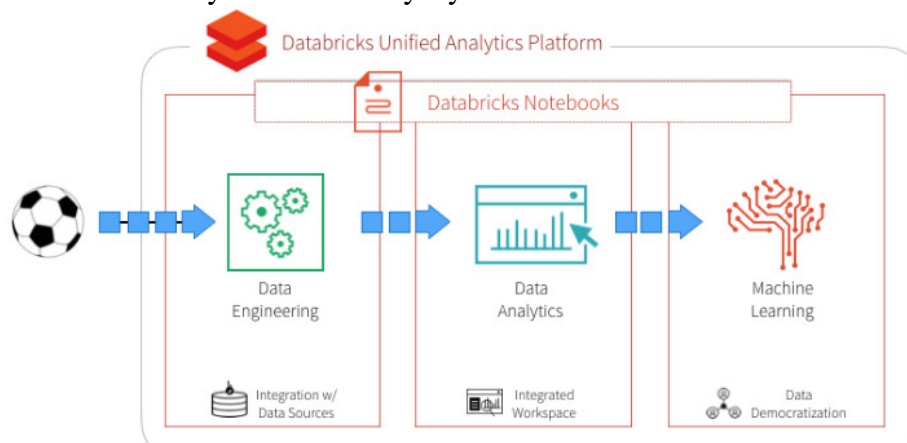


Figure 3. Application and analysis of big data in football player training

5.2 Big data analysis can alleviate the shortage of resources for grassroots trainers

By establishing an information platform for the training of athletes' strengths, electronic management files are established for athletes at different levels, and training talents are selected from huge data to improve the accuracy of scientific training. Research on big data for the development of the football industry promotes the generation of more industry values and promotes football The coordinated development of the industry has accelerated the scientific and technological development of the football industry. The focus of big data is to tap the potential value of data, integrate and analyze data information to make it a management resource that companies can use, according to the data information, they can grasp the changes in market demand and development trends in time, and conduct a detailed analysis of consumers in the football market. To provide consumers with attractive football products, personal customized football products and services will also become the industry's development trend. The football fitness and medical industry has a bright future. With the help of IoT sensor social software or mobile phone applications, users can obtain information and data.

5.3 New Applications in Big Data Systems

The current mobile client applications can diagnose the user's physical data and exercise health, and provide exercise suggestions and solutions, which can attract more consumers to participate in the fitness and medical industry.

China has formed a number of football industry bases. Under the background of big data, multiple win-win situations can be achieved through the mutually beneficial sharing of resources. Universities and scientific research institutions provide talents for football enterprises, realize the combination of supply and demand, enterprises can save research investment, and transform theoretical results of colleges and universities into productivity of football enterprises.

5.4 Physical Health Monitoring of Campus Students

The physical health monitoring of campus students is a huge system. Big data technology can overcome the shortcomings of traditional statistical methods. It uses data mining technology and human medical knowledge to collect statistics on changes in the health status, disease status, and national lifestyle of the entire population and specific populations. Monitor. It is important to understand the physical health of students at school. Use big data to set up a data mining model, and perform standardized student physical fitness monitoring steps after clarifying research questions and determining analysis goals. With the help of a data processing platform, a database of student information, physical fitness and football scores is established, data is collected and maintained, and physical performance indicators, morphological indicators, and physical fitness indicators are sorted and classified. Then perform data analysis to find out the factors that have a greater impact on problem solving and redefine them. Then the database records and collects field variables, performs appropriate conversions, and builds data models. The corresponding algorithm is selected for data processing according to the data model, and the data processing results are used as the basis for judging and selecting the scheme. Modify the model of the defective data and re-evaluate it. At the same time, explain the value and implement the final plan.

6. Conclusion

The physical characteristics of football players need to be coordinated with the characteristics of football. In today's football, scientific training plays a very important role in it, and scientific training requires big data as a basis, which is becoming increasingly important. Therefore, in the future training, in order to continuously improve the training effect of football players, coaches need to develop personalized training programs based on the different conditions of athletes to continuously improve their football skills. Only by combining big data technology can they be used in scientific training on campus. Get good results.

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