Discussion on the grounded theoretical thinking paradigm of sports data

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Abstract: *Sports data is the inevitable product of the digital era, and also the inevitable product of sports sociological attributes. Of course, sports data itself is a complex system with discrete characteristics. Under the situation of discrete multi-level data distribution, the matrix sports data is a practical requirement for further analysis and discussion of the modal development of sports education and teaching. This paper, starting from the grounded theoretical research method, attempts to explore the natural attribute of the analysis of discrete sports data, social attribute and the feasibility of educational mode thinking paradigm, and provides the feasibility of the basic thinking logic paradigm for practical sports data analysis.*

Keywords: *Sports data; Grounded theory; Thinking paradigm*

1. Introduction

Sports is the product of the activation of sports. Since the birth of sports, the relationship between sports and life has been very close. Since the 21st century, our life has been under the influence of information technology. As the closest partner of our life, sports has also undergone great changes in its characteristics. The most prominent feature is sports digitization, which can also be called sports digitization.

The digitalization of sports is the special attribute of sports in the new historical period. This special attribute will inevitably change and influence the determination of our live births. The deep question is what impact it will have on our live labor, and how deep and deep the impact will be. There are practical characteristics of depth and depth of understanding, as well as the root attribute of thinking logic and paradigm.

2. Analysis on the characteristics of sports data

2.1 Natural attribute of sports data

2.1.1 The natural attribute of sports data is the result of the development of sports information

In the information-based world, the progress of science and technology is changing, and people's thinking is becoming more and more vivid. They are deeply affected by it all the time. The degree of its development is unprecedented, and it is profoundly changing the thinking of all kinds of people.

The development and popularization of science and technology information technology, the promotion of sports change and innovation, the construction of sports networking, digitization and personalized lifelong characteristic system of sports data, the construction of a full-thread, full-position and personalized learning mode, and the cultivation of talents with innovative quality are the key changes faced by sports writers.

2.1.2 The natural attribute of sports data is the result of the word number resource system

The digitalization of sports will deepen the concept of sports activities. Sports digitalization is not simply to online or video traditional sports activities, but to collect data of sports activities in the whole process, analysis and response, transform traditional experiential skills into digital sports based on data interaction and information evaluation, and promote the development of sports activities anytime and anywhere. From the perspective of this natural attribute, the author of sports needs to master the basic information technology such as computer, and also needs to examine the concept of digitalization of

abstract thinking, and then further guide all links in the process of sports activities. Sports digitalization will promote the fair allocation of sports resources. In the digital environment, sports will no longer be limited to activities in the traditional sense. Participants can not only acquire knowledge through traditional interaction, but also carry out activities through network without leaving home with the help of computers. The sports practice in various schools has also proved that through sports digitalization, the coverage of high-quality sports resources can be expanded, the regional and urban-rural gap of high-quality sports resources can be gradually narrowed, and the equity of sports resources can be promoted, so that hundreds of millions of participants can share high-quality sports activities and change health through knowledge.

2.1.3 The natural attribute of sports data is the result of the development of sports quality

Sports digitalization has created conditions for promoting the development of physical and mental quality. Individualized sports activities that teach students according to their aptitude are the main direction of future sports. All the data of each participant's potential creation and exercise progress can be analyzed according to the intelligent digital sports, and the diagnosis and evaluation of the activity process can be carried out with the help of two-way data feedback in the activity process, the scientific guidance of differentiation and the development of personalized activity plans for participants. [1] In other words, the promotion of sports digitalization will help to achieve the goal of determining cases by numbers, evaluating cases by numbers and guiding cases by numbers.

2.1.4 The natural attribute of sports data is based on the integration of virtual and real activities

Sports digitalization does not rely entirely on data and algorithms to enter the whole process management of education. The collaboration of various sports software and hardware and data technology is not only to improve the quality of sports activities, but also to promote sports education from precision to science and efficiency through extensive application of data. The focus of sports activities is on education. Virtual sports can not completely replace our real sports activities. We can not ignore or weaken the real sports activities that sports participants communicate with each other because of vigorously popularizing the development of digital sports. The process of sports digitalization cannot be achieved overnight. In the future, online sports will still be the supplement and extension of real sports activities, and offline classroom education and digital online sports must be integrated.

2.1.5 The natural attribute of sports data is the result of promoting the development of sports education

Education is the decisive factor in the future. Digital technology and physical education are developing in parallel, and the physical education mode, physical education teaching mode, physical education management system and physical education guarantee mechanism are bound to undergo earth-shaking changes. Adapting to the trend of sports data, the construction of a healthy, diverse and living education system will enable everyone to enjoy fair and quality education rights, and the realization of a good vision will be accelerated. Physical education is not only health education, but also the starting point and starting point of the whole education, which directly determines the quality of talents and the future.

2.2 Social attribute of sports data

2.2.1 The first characteristic of the social attribute of sports data is the characteristics

The "category" exists in the "natural" life. The "life" is the second objective existence. Of course, sports, as a "category" activity, is specially social. The "social attribute" of sports data has the "characteristics".

The special characteristics of the sports society, the proper name is "sports", the process of collecting, sorting and calculating sports data is the process of accumulation of "sports", and the cognitive process of people's continuous improvement of the natural attributes of sports.It is also a process of cognition.

In the most concise words, the process of sports standardization is the cognitive process of the continuous sublimation of life and health of sports, and the accumulation process of dynamic changes. The whole process is also the process of dynamic changes and accumulation of sports data.

In the development of social sports in the category of "I", the category of "I" forms the sports talent of experiencing, exploring, and cognitive pleasure, forming the connotation and extension of the social attribute of sports data. The cognition of sports activities, such as thinking, discovery, innovation, evolution, improvement, awe, praise, fear and avoidance, is the social source of sports data.

2.2.2 The social attribute of sports data is the result of intelligence of sports characteristics

The rich cognitive process of sports data on life and health is also the result of the intelligence of social attributes of sports data. The accumulation and dynamic change process of sports data is aimed at promoting the physical health and wisdom of athletes.

The formation process of the social attribute of sports data is that the sports category constantly understands sports, the sports intelligence constantly sublimates, and also continuously improves the environment in which people live in society, that is, not only continuously improves the relationship between people and things in nature, but also continuously improves the social relations and international relations between people and people.

All of this is reflected in the continuous improvement of the knowledge of physical education data and the increasing intelligence of physical education.

The process of constantly sublimating cognition and increasing wisdom of sports activities is the social attribute form of sports data, or sports.

2.2.3 The social attribute of sports data is the table of sports statistics

The sports data is characterized by the cognition and intelligence of sports, and the depth of cognition and the degree of intelligence determine the life of sports.

The development of sports activities is constantly advancing, and the cognition of sports activities of the class is also dynamic. Without sports data, the sports humanization cognition of the category of sports does not exist, because there is no object of sports humanization cognition, and the sports humanization cognition itself will disappear. Without the accumulation of sports data, sports humanization cognition will disappear, and sports data intelligence will no longer exist. There is no cognition and wisdom of sports, and of course, there is no sports characterized by cognition and wisdom.

3. Analysis of grounded theoretical thinking paradigm

Rooted theory is a research method developed by Anselm Strauss and Barney Glaser of Columbus and Asia. It is a qualitative research method to develop and inductively derive rooted theory based on a systematic procedure.

3.1 Characteristics of inductive thinking paradigm of grounded theory

Grounded Theory (GT) is a kind of qualitative research. Its main purpose is to build GT theory (Strauss, 1987: 5) based on empirical data. Before the start of the study, researchers generally did not have theoretical assumptions. They directly summarized the experience from the actual observation, and then rose to the systematic theory. In terms of philosophy, grounded theory and methodology are based on the paradigm of post-positivism, emphasizing the falsification of the constructed theory. This is a kind of method to build up the essence theory from the bottom up. Specifically, on the basis of systematic data collection, explore the core concepts reflecting the essence of the phenomenon of things, and then construct relevant social theories according to the relationship between these concepts. First of all, grounded theory must have empirical evidence, but its main feature is that it abstracts new concepts and ideas from empirical facts, not in its empirical nature.

3.2 Analysis of data operation procedures rooted in theory

3.2.1 Theoretical production is the first step

The grounded theory particularly emphasizes the promotion of theory from data, and recognizes that only through in-depth analysis of data can the theoretical framework be gradually formed. It can be seen that this is a process of induction, which continuously concentrates data from bottom to top. The grounded theory does not carry out logical deduction on the hypothesis set by the researcher in advance. Unlike the general macro theory, the grounded theory carries out inductive analysis from the data.

3.2.2 The main task is to establish substantive theory

The main task of grounded theory is to build a substantive theory between macro theory and micro operational hypothesis (that is, a theory applicable to specific time and space). Formal theory must be built on the basis of substantive theory, but it does not exclude the construction of universal formal theory.

However, only after the substantial theory is built on the basis of data can the formal theory be built on the basis of various relevant substantive theories.

3.2.3 Keeping sensitive is the main purpose

Since the grounded theory emphasizes the researchers' sensitivity to the theory, its main purpose is to maintain sensitivity. Maintaining theoretical sensitivity can not only help us to have a fixed focus and direction when collecting data, but also pay attention to looking for concepts that can express data content in a more concentrated and concentrated way when analyzing data, especially when the data content itself is relatively loose. In particular, researchers should be sensitive to the existing theories, the previous theories and the theories presented in the data, and pay attention to catching the clues of new construction theories, whether in the design stage or in the collection and analysis of data.

3.2.4 Specific steps of data operation

The operation procedure of grounded theory generally includes five steps: 1) log in the data level by level, and generate concepts from the data; 2) systematically ask the theoretical questions related to concepts, and constantly compare the data and concepts,; 3) Establish the relationship between concepts and develop theoretical concepts; 4) Systematic coding and theoretical sampling of data,; 5) Seek the integration of the density, variability and degree of variability of the theoretical concepts and construct the theory.

4. Discussion on the sports data mode under the view of grounded theory

Digitalization is the future trend of social development and a new track for the quality development of sports activities. As the basic unit of social digitalization, sports data mode should focus on concepts and strategies, path, deepen the new understanding, optimize the new strategy, strengthen the degree of innovation, and strive to cultivate sports general talents with digital thinking and ability.

4.1 To take advantage of the situation, the natural attribute mode construction of sports data is based on the digital path of innovation

The theory of law first tells us that the path is to reach the target of law. The natural attribute mode of sports data should conform to the trend of sports digitalization, and promote the integration of sports digital technology and sports activities to a deeper level from the four aspects of monitoring, display, management and evaluation, so as to realize the reconstruction of sports concept, reconstruction of sports management, reorganization and evaluation.

4.1.1 Normalization of sports data monitoring

Whether individual or group, sports digitalization should serve sports activities, and both hardware and software should be equipped at the same time. Hardware, the digitalization and intelligent upgrading of sports facilities should be accelerated, and hardware facilities such as data collection should be equipped as required, such as Qing Interactive Virtual Simulation Intelligent Sensing Appliance, to create a modern sports environment with good experience and technical skills. The software should start from the physical function and technical and tactical system in sports activities, build an effective model of online and offline mixed data monitoring with digital technology, support a flexible and open sports organization model, and serve individual or collective personalized training and collaborative education.

4.1.2 Real-time display of sports data

Sports data display services meet individual or collective needs. Under the principle of "demand traction should be the king", we should build a sharing platform for high-quality sports activity resources and effectively gather high-quality resources that are easy to use; Build a learning and communication platform for sports activities to provide participants with intelligent personalized services throughout the process. At the same time, we should use new technologies such as AI, AI, and intelligence to explore new scenarios of sports technology skills learning, networking, immersion, and intelligence, and develop new applications such as intelligent learning and teaching, so as to provide more matching resources and services for the real-time display of sports data.

4.1.3 Standardization of sports data management

Sports digitalization should be sensitive to the new trend of data-driven governance, build data standards, and smooth the safe and convenient sports data exchange channel through the preparation of

standardized systems such as sports data thesaurus; Build a data mechanism to further improve data collection, analysis and mining based on the data; Build internal feedback mechanism, rely on massive data of sports activities, refine management business process, improve management service efficiency, and support strategic planning and scientific decision-making.

4.1.4 Systematic evaluation of sports data

The discrete nature of massive sports data is the difficulty of evaluation and the obstacle to scientific sports activities. The internal and external coordination of sports digitalization should first break through the evaluation of sports activities, build personalized individual development archives through normalized data collection, innovate systematic and comprehensive scientific evaluation tools, and carry out the longitudinal evaluation of the whole process of body temperature knowledge and the horizontal evaluation of all elements of cognitive emotion and mental skills; Explore the establishment of a panoramic evaluation model to objectively portray sports activities in different periods of time, different regions and different stages of development; Explore the immediate feedback mechanism of the effect of sports activities, and timely and accurately prepare the analysis report of the effect of sports activities. [2] In addition, we should make a breakthrough in the evaluation of individual achievements. In the skill ability test, we should expand the online examination and online technical skill test; In the event scenario, select the event unit or sports event alliance with the basis, conditions and willingness to explore the large-scale sports event activities.

4.2 The social attribute mode of sports data should be based on the situation and the digital strategy

From the perspective of legal theory, strategy is the logical basis of action. The practical, scientific, responsive and innovative characteristics of sports digitalization should be highlighted. Some outdated concepts and deviations in the interaction of sports digitalization should be corrected, and the overall strategy of sports digitalization should be planned scientifically and systematically.

4.2.1 Sports data should be practical and practical

Sports data should highlight practicality, and should not focus on fantasy and falsehood. Practice is an important feature of sports digitalization. The digitalization of sports should start with the practical characteristics of sports activities and facts, control the overall situation and cut into the details, and put the digitalization of sports into real activities.

4.2.2 Sports data should be realistic and scientific

Sports data should be scientific, not eager for quick success and instant benefit, and not greedy for perfection. Digital sports is a systematic process, which involves institutional planning and resource management evaluation, etc. It is necessary to plan and promote with systematic thinking. The digitalization of sports should lay the foundation for the construction of sports activities, find out the current situation of each sports activity unit, distinguish the characteristics of various types of sports activities, and explore and accumulate scientific promotion and opening up opportunities through pilot and demonstration. [3]

4.2.3 The sports data should be true and effective to highlight the applicability

The sports digitization highlights the adaptability, and the two flower racks are not desirable. The key and guidance of sports digitization is responsiveness. 5G, data, intelligent Internet of Things, blockchain and other new technologies

The next-generation digital technology is the support and guarantee of sports digitalization. We must not stay in the traditional mode of sports activities, but we should not only pay attention to the introduction of digital technology and equipment; We should not blindly pursue the excellence and novelty of digital technology, ignore the basic orientation of sports digital services, and ignore the deviation of technology.

4.2.4 Sports data should break the situation and become more innovative

Sports data highlights innovation, does not stick to the rules, does not stick to the rules, innovation is the first move in the development of sports data reform. Sports digitalization should not follow the old rules, and should not be narrowly limited to external specific requirements. It should be regarded as the internal variable of the systematic change of sports data. It should seize the opportunity of the new generation of sports activity technology, reshape the new pattern of sports activities through digital thinking, and realize the change of talent cultivation pattern from traditional scale standardization to

future scale personalization.

4.3 In response to the trend, the teaching mode of sports data education is guided by digital concept and innovation

In recent years, China has issued a number of relevant policies to accelerate the process of education informatization, which has accelerated the positive promotion of education digital transformation. The implementation of the digital education strategy was clearly put forward at the 2022 National Education Conference, which is an important reform measure for China's education. From the perspective of jurisprudence, idea is the precursor of action. Sports digitalization should respond to the trend of digitalization, focus on the innovation of ideas, let sports participants grasp digitalization individually or as a group, let sports technology straighten out digitalization, improve sports digitalization literacy, and lay a solid foundation for sports digitalization.

4.3.1 Recognize the contribution of digital leadership

Sports participants, whether individual or group, directly define the threshold range of informatization from the perspective of informatization literacy. Sports data informatization is the process of a system. It must be upgraded to the process of individual health education, so that it can be promoted and grasped. The top priority of sports digitalization is to improve the digital literacy of individual education and group leaders. [4]

4.3.2 Strengthen the implementation of sports digitalization

As for the digitalization of sports, whether the digitalization strategy of sports education can be implemented or not is directly affected by the digitalization comprehensive quality of individuals and groups. In order to improve the implementation of digitalization of sports education, the digitalization of sports should require more concrete measures with more detailed standards,.

4.3.3 Enhance the digitalization of individual products

The digitalization of physical education should adhere to the principle of "people-oriented", and always adhere to the digitalization of physical education to cultivate the ability. The practical application of the scale of sports activities, the accumulation of massive sports activities data, the accumulation of the advantages of sports education quality development data, the improvement of sports education governance system and governance capacity, and the promotion of sports education governance.

4.3.4 The enhancement of technology and digital guarantee capability

At the present stage, the number of sports digital technology and team members is generally small, and the technology is not skilled enough, and the in-depth research is not enough, which can not meet the requirements of sports digital on the whole. It is a top priority to build a sports digital technology team that has good professional and technical literacy in sports digitalization and understands the actual physical education and teaching business, and effectively strengthen technical support and guarantee capability.

5. Conclusions

In a word, sports data is the inevitable product of the digital era, and also the inevitable product of sports sociological attributes. Physical education data itself is a complex system with discrete characteristics. Under the situation of discrete multi-level data distribution, the matrix physical education data can provide a basis for further analysis and discussion of the modal development of physical education and teaching, which is a realistic demand. From the perspective of grounded theoretical research method, the analysis of the natural attribute of discrete sports data, social attribute and educational mode thinking paradigm provides the feasibility of providing basic thinking logic paradigm for practical sports data analysis.

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