Study on the Development and Application of Computer Integrated Management System of School Physical Education based on Network Construction

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Abstract. With the Internet development, integrated management system has been gradually applied to the education industry, especially the sports industry, which not only improves the work efficiency, but also reduces the management cost. In sports management activities, decision-making, planning, control and organization are inseparable from information management, which is an important basis of sports management process. Through the integrated information system, we can effectively play the role of sports information resources, which can be studied for sports information management. Therefore, this paper constructs the comprehensive management of school physical education system (hereinafter referred to as TBMSOSPE), which can better improve the physical education (hereinafter referred to as PE) and management. With the new requirements of network construction in Higher Education in China, colleges can develop TBMSOSPE based on network construction.

Keywords: Network Construction, Sports, The Comprehensive Management of School Physical Education System

1. Introduction

With the reform of PE system, the requirement of sports information is higher and higher, which requires colleges to strengthen information management technology. With the expansion of the scale of colleges, the difficulty of PE teaching and management is greatly increased, which needs to improve the traditional management methods [1]. Therefore, the school should establish the TBMSOSPE, which can improve the management quality and efficiency. Through the comprehensive management system of PE, teachers can efficiently complete the daily PE teaching work and make decisions, which is a standardized, information-based and network-based work mode. We should constantly optimize the management information system of PE in Colleges, which will realize the macro-control of school PE [2]. Through the TBMSOSPE, we can comprehensively manage various teaching plans, teaching organization and management, teaching links and management methods, teaching and research activities, teacher training, teaching facilities, etc., which will carry out...

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scientific PE. The development of TBMSOSPE is a long-term and complex project. There are two kinds of development methods: life cycle method and prototype design method [3].

2. Function of TBMSOSPE based on network construction

2.1. Function analysis of TBMSOSPE
With the establishment of campus network, the requirements of TBMSOSPE are higher and higher, which requires us to carry out modern management gradually. The application of network technology in TBMSOSPE is mainly reflected in the network course selection, monitoring, score calculation and so on [4]. In this paper, the function of TBMSOSPE is established, as shown in Figure 1.

![Figure 1. The function of TBMSOSPE.](image1)

2.2. Network control principle of TBMSOSPE
School network construction is basically LAN, which is connected with the school TBMSOSPE. Through massive input and output of sports management data, the school can’t only reduce the loss of human and material resources, but also create an "automatic office management" system platform [5]. Therefore, the TBMSOSPE is mainly controlled by the campus LAN topology, as shown in Figure 2.

![Figure 2. Network control LAN topology of TBMSOSPE.](image2)
3. Characteristics of TBMSOSPE

3.1. Comprehensiveness
The object of TBMSOSPE is the elements of information activities, which includes the viewpoint of system theory, sports information itself, information personnel, technology, organization, environment, etc. At the same time, the object of TBMSOSPE also includes all kinds of sports related resources, that is, sports information production, sports information resources construction and allocation, information orderly development, sports information transmission, sports information utilization, etc., which includes various elements in the whole process of TBMSOSPE activities. The management purpose of TBMSOSPE is to effectively meet the information needs of sports organizations and individuals at all levels, which requires a variety of methods and means for the development and utilization of sports information resources. With the help of modern information technology, humanities and economic means, we can achieve the best allocation of sports information resources, which can achieve effective management purposes. The content of TBMSOSPE is not limited to the management of sports information, which needs to highlight the comprehensiveness of management objects. The method of TBMSOSPE is a collection application of many methods, which is a comprehensive application of sports management, sports information and various policy-making and planning methods [6].

3.2. Economy
Under the background of information economy, information is regarded as one of the five economic elements, namely human resources, raw materials, capital, science and technology and information. TBMSOSPE is a new management mode, which is a strategic information management mode combining technology, humanities and economic means. TBMSOSPE has replaced the traditional single technology as the goal of management, which has become an important idea of sports management in the information age. The economic characteristics are mainly reflected in the economic cost accounting of sports information development and the operation of market mechanism of sports information service industry [7].

3.3. Systematicness
TBMSOSPE includes sports information, personnel, technology, equipment, funds and other elements, which is the management of sports information resources system. The production, processing and circulation of sports information are inseparable from the sports information producers, which is also inseparable from information technology and financial support. Sports information and many elements are interdependent, which is an inseparable system complex. From the point of view of system theory, any element of sports information resources can’t play a role alone. Only if they are configured according to certain principles to form an information system, can it show its value.

4. TBMSOSPE
According to the functional requirements, this paper thinks that the school TBMSOSPE can be divided into three parts, namely, component, modular and hierarchical, as shown in Figure 3.
Componentization is to divide the data in a single module into several different components according to different types, which helps to realize data commonality and resource sharing. At the same time, we can reserve several different blank modules. Users can set their own management content according to their own needs, which will reflect the humanized setting of functions. Modularization is to divide the whole system into several independent and interrelated modules based on the actual situation of management objects, which can run independently. Hierarchy is to divide the system into multiple levels, which can improve the level and efficiency of system management and maintenance.
5. Application environment and benefit of TBMSOSPE

5.1. The environment and social benefits
The development and research of TBMSOSPE network technology can be suitable for all types and grades of schools, which covers all the contents of school PE teaching and sports work management. School PE is facing the test of market competition and social development. Therefore, through the research, promotion and use of TBMSOSPE, we promote the modernization, scientific, systematic and standardized management of school sports work and PE teaching. TBMSOSPE will greatly improve the PE and PE teaching efficiency, which will reduce the PE intensity. By improving the management quality and teaching level, TBMSOSPE can deepen the reform of all grades and categories, which will create the industrialization, socialization and diversified management of school sports.

5.2. The market and economic benefits
TBMSOSPE has a great market potential. In the development, debugging and use process, we can further develop and research according to the situation of various schools, which will continue to expand the application of "management system". Through the media, scientific research reports, seminars and other ways, we can actively promote the scientific research achievements into productivity, which will better serve the society. Therefore, TBMSOSPE will have great market potential and better economic benefits.

5.3. Comprehensive functions
TBMSOSPE is connected with "Campus Network Center" to complete the control function of campus LAN. Through the connection with the "Campus Network Center", we can truly realize office automation, which can accurately accept the relevant instructions of the school leaders. Through the network system, we can help teachers to carry out communication analysis, which will improve teachers' teaching ability. By connecting to the Internet, TBMSOSPE can complete the functions of school sports network information exchange, transmission and publicity. Through the school education network platform, we can make special physical education teaching web pages, which can
be included in information release, sports science and technology trends, sports education achievements, etc. Through the platform, we can realize direct communication with the outside world, which will complete the distance education of school physical education. TBMSOSPE is the core part of the management system, which combines management departments, computers and servers, printers and other service equipment, which will form a relatively complete computer integrated management. Through TBMSOSPE, we can effectively complete sports teaching, sports competition training, sports competition, students' physical health standards, staff file management, document management and other functions.

6. Conclusion
The rapid development of TBMSOSPE provides great convenience to all walks of life, especially school PE. Through the rational use of computer technology and network management system, we can play the function of information sharing and convenient operation, which can make school PE teaching realize office automation. Through the school TBMSOSPE, we can better promote the development of students' sports learning.

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