

Research on the Application Characteristics of Information Technology in School Physical Education

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ABSTRACT. By using the methods of literature research or logical deduction analysis, this paper combs and expounds the research status and characteristics of the application of information technology in school physical education. The results show that the domestic and foreign research mainly focuses on the application of information technology in physical education teaching and the application of information technology in the training of physical education teachers; the evaluation and analysis of the role and influence of sports information technology; the integration and development of information technology and school physical education teaching resources; the application of information technology in school physical education teacher training; the application of information technology to students' participation. The influence of school physical education, the construction of school sports training information management system and the application of information technology in school sports management show the characteristics of deepening research content, enriching research methods and expanding research perspective. Therefore, the future research should strengthen the integration of related disciplines, expand the research perspective, strengthen the innovation of research methods, and deepen the research content, so as to provide a comprehensive theoretical basis for the application of information technology in school physical education in the future, and point out the practical direction for the application of information technology in school physical education work.

KEYWORDS: information technology, school physical education, application characteristics

1. Introduction

In response to the requirements of the "Thirteenth Five-Year Plan for National Economic and Social Development" for the promotion of education reform and informatization, the State Sports General Administration clearly stated in the "Thirteenth Five-Year Plan for Sports Development" to improve sports culture, education and guarantee system, the use of information technology to innovate the

school physical education model is a necessary means. However, how to fully apply information technology to school physical education has become the focus of attention from all walks of life practice needs theoretical guidance. Therefore, this article comprehensively analyzes the research status and research direction of the application of information technology in school physical education, in order to provide theoretical support for the application of information technology in school physical education.

2. Current status of research on application of information technology in school physical education

2.1 Research on the application of information technology in physical education

The research of TonyWeir & Sean Coonor (2009) involves the application of digital video in physical education [1]. First of all, the technology provides video clips of student performances in physical education, and based on this feedback and review, that is, digital video is regarded as a tool in physical education, and formative and summative evaluations are carried out through this tool. In terms of learning assessment, digital video provides students with an opportunity to formulate their own learning goals and evaluate learning results, while compiling e-learning files. Papastergiou M (2009) proposed that video games are an important part of information technology and an important tool for physical education [2]. Video game competitions can not only improve young people's knowledge, skills, attitudes and behaviors in health and physical exercise, but also new physical interactive video games can enhance young people's physical fitness, sports skills and motivation to exercise.

2.2 Application research of information technology in sports training, sports management, etc.

W.Jia (2012) analyzed the actual application of information technology in school physical education (physical education, physical training, sports management, etc.), and discussed the function and role of information technology in the development of school physical education [3]. These aspects have promoted the status of information technology in school physical education, and on this basis, proposed the application of information technology in the development of school sports. The research of Beets.M.W (2005) proposed that physical training contributes a lot to the health of high school students, and expanding the application field of information technology has a higher efficiency in enhancing the physical fitness of students [4]. Cleborne D (2002) believes that the fundamental to realize education informatization is to maintain the principles of teaching leadership and management. It can be seen that applying information technology to physical education management can lay a good foundation for the development of school informatization [5].

2.3 The application research of information technology in school physical education draws lessons from the application of school physical education information technology

R. Barton & T. Haydn (2006) focused on analyzing a series of situations that junior teachers face when using the latest information technology in the training process, and focused on describing the training process of trainers in order to obtain better information and communication technology the reflection made [6]. The research of Whitworth.JE (2005) clearly pointed out that the application of information technology in the world today is mostly manifested in the development of information technology software, and the development of information technology auxiliary software in the teaching process can effectively improve the quality of teaching, which is important for promoting information technology in education and teaching [7]. The application has a great promotion effect. These studies have given a scientific theoretical basis for the training of information technology for physical education teachers and the development and application of information technology in the field of sports, and provided reliable practical guidance for the development and practical activities of information technology training for physical education and school physical education information technology.

2.4 Evaluation and analysis of the role and influence of school physical education information technology

Relevant research results show that the role and influence of the application of information technology in school physical education is reflected in the promotion of the school's own development and talent training; the promotion of the development of school physical education; the promotion of the wide application of information technology and the realization of the network. The power source of rapid development in the age of technology and information [8]. It is specifically embodied in: First of all, in terms of affecting the development of the school itself and the training of talents, some studies believe that the application of information technology to school physical education is beneficial to improving the quality of teaching, enriching teaching methods, and enhancing the reputation of the school. At the same time, in terms of personnel training, the use of information technology is conducive to the formation of a mechanism for schools to strengthen the recruitment and training of information technology professionals, and also greatly promotes the improvement of students' information technology application capabilities. Secondly, in terms of the overall development of school physical education, it is generally believed that information technology has provided many ways for contemporary school physical education to bring about tremendous changes in contemporary school physical education. This is conducive to promoting the prosperity of school physical education and conforms to the trend of the times for school physical education, technological and diversified development is of great significance. Finally, in terms of popularizing the application of information technology and accelerating the development of the information age, research has shown that the rapid development of information technology since the new century, and the

combination with school physical education work has further broadened the application range of information technology, which undoubtedly promotes the information age rapid development.

2.5 Research on the integration and development of information technology and school physical education resources

The first is about the connotation of the integration of information technology and school physical education. Scholars believe that school physical education is a part of school physical education, and information technology as a tool can be used in school physical education to improve the scientific and efficient work. Second, the necessity of the integration of information technology and school physical education lies in the needs of the times for the expansion of information technology, the innovation of school physical education methods, and the demand for physical education resources of school physical education teachers and students. The third is about the strategy and feasibility study of information technology and school physical education. Scholars believe that the integrated strategy includes innovations in network resources, student information, teacher courseware, teaching methods, etc., and proposed to improve traditional school physical education concepts and the strategy of teaching structure and its feasibility are analyzed. Fourth, in terms of the integration path of specific information technology and school physical education, studies have pointed out that integrating novel information technology into the theoretical courses contained in sports can extend the true connotation of theoretical teaching and expand the current situation. Some teaching methods encourage students to explore novel learning paths, and at the same time put forward feasible integration paths, such as demonstrating the meaning of teaching, obtaining multiple resources, and improving classroom effectiveness.

2.6 Research on the application of information technology in the training of school physical education teachers

Information technology has a promoting effect on the training of school physical education teachers. First of all, the recruitment mechanism of school physical education teachers requires schools to raise the threshold of physical education teacher recruitment, increase the test content of information technology application ability, and lay the foundation for promoting the development of school physical education information technology. Secondly, regular training is carried out on the information technology application ability of existing school physical education teachers, which is specifically manifested in the objectives, main tasks, general principles, content and requirements, organization and management of the information technology application ability training of school physical education teachers. Finally, the regular assessment and promotion system for the information technology application ability of school physical education teachers. In order to ensure the talent ability of school physical education teachers and reduce talent loss, regular assessments of on-the-job teachers should be carried out and promotion and

demotion based on the assessment results. This is to ensure schools the foundation for the reform and development of the integration system of sports and information technology.

2.7 Research on the impact of the application of information technology on students' participation in school physical education

As the main body of school physical education, students benefit a lot from the integration of information technology, which is embodied in stimulating students' interest in learning, enhancing students' understanding and cognitive abilities, and broadening their horizons. First, in stimulating students' interest in learning, the application of information technology in the process of school physical training has made technology mobilized, visualized, and vivid, endowed the original boring technical teaching courses with soul and stimulated students' interest in learning. The second is that the application of information technology makes it difficult to easily transform the content of physical education courses, to turn dynamics into statics, to strengthen students' understanding of theoretical and standardized movements, to help students establish clear movements, effectively improve and use multimedia technology for teaching interaction. The third is to use information technology to strengthen the information exchange sports skills between teachers and students, and to bring students into a richer and broader new field through high-tech means. The integration of information technology and school physical education expands students' horizons.

2.8 Research on the construction of school sports training information management system

In physical education and sports training, how to use modern information technology is an urgent problem that needs to be solved in school physical education, including organizing sports training, obtaining relevant sports information in time, and planning sports events. The first is to apply information technology to organize sports training, that is, to systematically manage the school's after-school sports training schedule and issue training announcements in the information system in real time. The second is to apply modern information technology to obtain relevant sports information in a timely manner, so that teachers and students can obtain useful information in the information system, including sports common sense, rescue knowledge, and technical introduction. The third is to use modern information technology to plan the event, which mainly includes planning, organization, and estimation work before the event, as well as the arrangement, control, and operation during the event, as well as evaluation, reflection, and summary work after the event.

2.9 Research on the application of information technology in school sports management

The important role of information technology in school sports is mainly manifested in the management of school sports, including financial management, personnel management, logistics management, and event management. First of all, in terms of financial management. The application of information technology can improve the efficiency of the financial department, make the school sports fund flow more clear, and facilitate the school's unified planning and arrangement of sports finance. Secondly, in terms of personnel management. The school physical education teachers and employees can be managed systematically, and the manpower files can be clearly displayed in order to prepare for the smooth implementation of personnel transfer and wages. Again, in terms of logistics management. Logistics management includes the maintenance and maintenance of venues and facilities. The use of information technology monitoring can reduce manpower and increase work efficiency. Finally, in terms of event management. In order to promote the efficient and quick processing of competition information during the school competition, a complete content management system for competitive competitions can be designed. Information technology can be used for scientific and unified management from the planning of the competition to the holding and experience learning. The smooth holding and successful conclusion of the event is of great significance.

3. Application characteristics of information technology in school physical education

3.1 Deepening the research content

Based on the research results at home and abroad, it can be found that the current research on the application of information technology in school physical education shows diversified characteristics, and the research content is gradually deepening. The research on the application of information technology in school sports is a historical development process. In other words, the research on the application of information technology in school sports is based on the research results of predecessors. The theory and practice of technology application will also change accordingly. For example, in the "Outline of the Thirteenth Five-Year Plan for National Economic and Social Development (2016-2020)", it is mentioned that "promoting modernization of education", "focusing on vocational education and applied higher education, develop modern distance education and online education". Under this policy concept, the research on sports informatization in vocational schools has become a hot spot, providing strong support for the practical activities of sports informatization in vocational schools.

In addition, with the passage of time, society and academia have continuously deepened their understanding of school physical education information technology. When studying the application of information technology in school sports

management, scholars first introduced the status quo, problems and countermeasures of school sports management as a whole. Based on this, later generations made specific analysis from the details of school sports information management. Some experts and scholars take the school sports equipment management information system as the research object, from equipment purchase management, equipment inventory management, equipment loan and return management, equipment use reservation management, equipment damage compensation management, equipment scrap management, report management and system management, etc. The detailed elaboration not only deepens the research content, but also provides theoretical reference for the smooth development of information technology in school physical education.

3.2 Enrichment of research methods

Regarding the research on the application of information technology in school physical education, scholars have adopted diversified research methods, which can be summarized as a combination of qualitative research and quantitative research. In terms of qualitative research, it includes documentary method, historical research method, comparative research method, investigation research method, case analysis method, etc. Using qualitative research methods, the purpose is to clarify related concepts, related theories, related research, influencing factors, experience reference and strategy formulation of school physical education information application. In terms of quantitative research, it specifically includes factor analysis, hierarchical analysis, regression analysis, cluster analysis, structural equation modeling, etc. The use of the above quantitative research methods lays a scientific and reasonable theoretical foundation for the construction content and evaluation indicators of school physical education informatization.

However, if the method innovation is further strengthened, such as based on a large number of relevant documents, experimental analysis can be used to enhance the sense of context in the research process and the persuasiveness of the research results; based on the background of big data simulation, the analysis and application of related data will increase the scientificity and reliability of the research results; Based on computer network technology, develop school physical education information system to provide corresponding technical support for the application of information technology in school physical education work. In this way, it can not only deepen the depth of school physical education informatization research in theory, but also provide scientific and solid theoretical support for the application of school physical education informatization in practice.

3.3 Research perspective can be expanded

The data shows that the research on the application of information technology in school physical education has shown a trend of increasing breadth and depth. In terms of research objects, it mainly focuses on the system management of school physical education informatization, the informatization of physical education, the

informatization of physical education teacher training, and the informatization of sports training. However, the results are still based on the status quo, problems and countermeasures as the main research content, especially the institutional mechanism the factors affecting the development of school physical education informatization play a vital role in promoting the development of school physical education informatization. However, looking at the current research, the research on the system and mechanism of school physical education information is relatively scarce, which limits the development of school physical education information to a certain extent. In addition, the research on the application of information in sports research, student physical fitness monitoring, school stadiums and facilities management, school sports finance and logistics is very lacking, and further exploration is needed.

4. Conclusion

Information technology has become a characteristic of the development of the times and plays a vital role in school physical education. However, relevant literature data shows that the current research on the application of information technology in school physical education shows the characteristics of in-depth research content, enrichment of research methods, and expandable research perspectives. However, in order to deeply study the application of information technology in school physical education, we should strengthen the discussion in the following aspects. It is hoped to provide a comprehensive theoretical foundation for the application research of information technology in school physical education in the future, and to give practical guidance for the application and practice of information technology in school physical education.

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