Curriculum and Teaching Methodology (2024)
Clausius Scientific Press, Canada

DOI: 10.23977/curtm.2024.071007
ISSN 2616-2261 Vol. 7 Num. 10

# *Research on the Construction and Optimization Path of Digital Teaching Resources of Physical Education Curriculum in Colleges and Universities under the Background of Education Informatization 2.0*

**Cong Xiangfei**

*School of Physical Education, Hunan Institute of Science and Technology, Yueyang, 414006, China*
*12001003@hnist.edu.cn*

***Keywords:*** Education Informatization 2.0; Digital Teaching Resources; Construction Dilemma; Optimize the Path

***Abstract:*** As an important connotation of education informatization in colleges and universities, the construction of digital teaching resources is of long-term significance to realize the sustainable development of teaching resources and promote the construction of physical education curriculum teaching resources. By using the methods of literature and logical analysis, this paper explains the value of digital teaching resources of physical education curriculum under the background of educational informatization 2.0, summarizes the practical difficulties in the construction and development of teaching resources of physical education curriculum in colleges and universities, and then explores the ways to optimize the construction and optimization of teaching resources of physical education curriculum in colleges and universities, so as to stimulate students ' interest in physical education learning, build a digital teaching resource platform, improve teachers ' information application ability, meet the diversified needs of students ' physical education teaching resources, and effectively improve the quality.

## 1. Introduction

The official promulgation of the " Education Informatization 2.0 Action Plan " marks that China 's education informatization construction has entered a new 2.0 era with the core characteristics of " educating people, integrating innovation, systematically promoting, and leading development[1]. " Under the background of this era, the education information system is undergoing profound changes and comprehensive upgrades, and is committed to promoting the all-round and deep-seated innovation and change in the field of education through more cutting-edge technical means. The digital teaching resources of physical education curriculum are the organic combination of information technology and teaching content[2]. It has distinct characteristics. It can make full use of cloud computing, Internet, big data, artificial intelligence and other rich information resources to make the teaching content more intuitive and vivid, the teaching means more diversified and rich, and the teaching activities more creative. Therefore, the construction of digital teaching resources of physical education curriculum in colleges and universities is gradually becoming a new hot spot in

the field of education. In recent years, domestic and foreign scholars have carried out extensive and in-depth research on the construction of digital teaching resources for physical education courses, mainly focusing on the design principles, development strategies, application modes and effect evaluation of digital teaching resources, which provides rich theoretical support and practical experience for the construction of digital teaching resources for physical education courses in colleges and universities. However, with the continuous deepening of education reform and the increasing demand of students ' personalized learning, how to effectively integrate and apply digital teaching resources and improve the quality and effect of teaching resources of physical education curriculum has become an important issue in the field of physical education. Therefore, this paper will deeply discuss the construction and optimization path of digital teaching resources of physical education curriculum in colleges and universities under the background of education informatization 2.0, in order to provide theoretical support and decision-making basis for accelerating the digital teaching resources of general education in China.

## 2. Value review of the construction of digital teaching resources of physical education curriculum in colleges and universities

In order to achieve a major breakthrough and a new leap in the digital teaching resources of physical education courses in colleges and universities, we must resolutely follow the innovative paths of independent construction, co-construction and sharing, lifelong education and people-oriented. We need to learn from the advanced experience and valuable value of the construction of excellent courses and network courses in order to promote the continuous development of the construction of digital teaching resources in colleges and universities in China and maximize its benefits, so as to better serve the strategic overall situation of the construction of educational informatization 2.0.

### 2.1 Promote self-construction and promote the new development of digital teaching resources of physical education curriculum

However, the study found that there are still some problems in the digital teaching resources of physical education curriculum in colleges and universities, such as " emphasizing evaluation and neglecting sharing. " This is mainly due to the fact that after the introduction of the new policy, the number of digital curriculum resources construction projects is taken as the pursuit goal and measurement index, which makes it difficult to ensure the quality of construction, which is contrary to the connotative development requirements of higher education proposed by the state. With the deepening of education informatization 2.0, the global data of digital teaching resources of physical education curriculum in colleges and universities can quickly connect the network of teachers and students, so that teachers and students can quickly acquire knowledge from excellent courses and other resources, and provide channels for colleges and universities to promote the independent construction of digital teaching resources of physical education curriculum from multi-dimensional and multi-angle[3]. To promote colleges and universities to play their own subjective initiative, relying on the characteristics and advantages of the school, the study carry out targeted digital teaching resources construction work ,to make full use of modern information technology to create a digital teaching resource library. It not only meets the actual needs of students, also reflects the characteristics of physical education. Therefore, in the process of promoting the transformation of digital teaching resources of physical education curriculum in colleges and universities from policy-driven construction to independent construction, the importance and function of the construction of digital teaching resources of physical education curriculum should be further highlighted on the basis of the government's overall guidance and reasonable planning of digital

teaching resources of physical education curriculum. Colleges and universities should actively play their main role, pay attention to the integration and optimal allocation of teaching resources, strengthen teacher training and technical support, and build a sound evaluation mechanism, and strive to create high-quality digital teaching resources in line with the development trend of the times and meet the needs of students ' growth and success, so as to promote the innovative development of physical education in colleges and universities.

### 2.2 Promote co-construction and sharing, and optimize the new allocation of digital teaching resources for physical education courses

With the rapid development and popularization of information technology, the construction of digital teaching resources of physical education curriculum in colleges and universities is facing unprecedented development opportunities. The co-construction and sharing of digital teaching resources of physical education curriculum is conducive to the complementary advantages, resource interoperability and benefit sharing among colleges and universities, which is helpful to break the resource barriers between colleges and universities and realize the optimal allocation of resources[4]. This can not only avoid the repeated construction of resources, but also improve the efficiency of resource use and benefit more students. Secondly, by sharing digital teaching resources, colleges and universities can learn from each other and learn advanced teaching methods and means to promote the innovation and reform of teaching mode. At the same time, shared resources can also provide teachers with more teaching materials and cases, which can help improve teachers ' teaching level and ability. Finally, the digital teaching resources of physical education curriculum have the characteristics of large amount of information, fast update speed and strong interactivity, which can provide students with more convenient and efficient learning methods. By sharing resources, students can choose their own learning content and schedule, and improve their learning effect and interest. In a word, through co-construction and sharing, we can realize the optimal allocation of resources, promote the innovation and development of teaching mode, and improve students ' autonomous learning ability and learning effect. Therefore, colleges and universities should actively participate in the work of co-construction and sharing, jointly help improve the quality of physical education and cultivate more outstanding sports talents.

### 2.3 Promote co-construction and sharing, and optimize the new allocation of digital teaching resources for physical education courses

With the rapid development and popularization of information technology, the construction of digital teaching resources of physical education curriculum in colleges and universities is facing unprecedented development opportunities. The co-construction and sharing of digital teaching resources of physical education curriculum is conducive to the complementary advantages, resource interoperability and benefit sharing among colleges and universities, which is helpful to break the resource barriers between colleges and universities and realize the optimal allocation of resources[5]. This can not only avoid the repeated construction of resources, but also improve the efficiency of resource use and benefit more students. Secondly, by sharing digital teaching resources, colleges and universities can learn from each other and learn advanced teaching methods and means to promote the innovation and reform of teaching mode. At the same time, shared resources can also provide teachers with more teaching materials and cases, which can help improve teachers ' teaching level and ability. Finally, the digital teaching resources of physical education curriculum have the characteristics of large amount of information, fast update speed and strong interactivity, which can provide students with more convenient and efficient learning methods. By sharing resources, students can choose their own learning content and schedule, and improve their learning

effect and interest. In a word, through co-construction and sharing, we can realize the optimal allocation of resources, promote the innovation and development of teaching mode, and improve students ' autonomous learning ability and learning effect. Therefore, colleges and universities should actively participate in the work of co-construction and sharing, jointly help improve the quality of physical education and cultivate more outstanding sports talents.

### 2.4 Adhere to the people-oriented, to create a new chapter of digital teaching resources of physical education curriculum

In the construction of digital teaching resources of physical education curriculum in colleges and universities, the implementation of the concept of " people-oriented " emphasizes respect for the subject status of human beings, pays attention to the needs of human development, takes the all-round development of human beings as the ultimate goal, and can ensure that the resources better serve the needs of students and members of society[6]. On the one hand, the concept of people-oriented requires full consideration of students ' actual needs and learning characteristics in the process of resource construction. It is necessary to deeply understand students ' learning habits, interests and hobbies, as well as the difficulties and problems encountered by students in physical education learning, in order to be able to develop digital teaching resources in a targeted manner, make it more in line with students ' needs and improve learning effects. On the other hand, the concept of people-oriented is also reflected in the continuous updating and optimization of resources. With the continuous development of physical education and the changing needs of students, digital teaching resources also need to be constantly updated and optimized. We should pay close attention to the latest developments and research results in the field of physical education, and integrate new ideas, methods and contents into resources in time, so that they can always keep pace with the times. In a word, in the construction of digital teaching resources of physical education curriculum in colleges and universities, the concept of people-oriented is the core value that must be adhered to. Only by paying attention to the needs and development of students can we develop truly valuable digital teaching resources and make positive contributions to the popularization and development of physical education.

## 3. Practical difficulties in the construction of digital teaching resources of physical education curriculum in colleges and universities

In recent years, the state attaches great importance to the construction of education informatization 2.0, and education departments at all levels are committed to promoting the goal of " independent construction, co-construction and sharing, lifelong education and people-oriented " of teaching resources in colleges and universities. However, according to the actual situation of the construction of digital teaching resources of physical education curriculum in colleges and universities, there are still the following problems to be solved.

### 3.1 The lack of integration of digital teaching resources, limiting the application of physical education curriculum teaching resources

At present, colleges and universities have made some progress in the construction of digital teaching resources for physical education curriculum, which is reflected in the richness of digital resources, the diversification of platforms and the extensive application of technology, but still faces many challenges as a whole. Since the implementation of the Education Informatization 2.0 Action Plan, the construction of digital teaching resources for physical education courses in colleges and universities has developed rapidly. First, from the perspective of resource content, many colleges

and universities have accumulated a large number of digital teaching resources, including online courses, teaching videos, electronic teaching materials, etc. These resources cover many aspects of sports theory, skill teaching, health knowledge, etc., and provide more choices and possibilities for sports teaching[7]. However, despite having such a wealth of digital teaching resources, the application of colleges and universities in physical education is still insufficient. Second, many teachers ' understanding of digital teaching resources is still on the surface, failing to fully explore and utilize the advantages of these resources. In practical teaching, teachers often simply pile up resources together, lack of systematic integration and in-depth excavation, resulting in unsatisfactory teaching results. Thirdly, the integration of digital teaching resources and physical education teaching needs to be improved. Although digital resources such as online courses and teaching videos have certain advantages in the teaching of theoretical knowledge, it is difficult to replace the traditional face-to-face teaching method in terms of skill teaching and practical operation. Therefore, how to effectively combine these digital teaching resources with physical education to better serve physical education is still an urgent problem to be solved. Fourth, with the continuous upgrading of technology, digital teaching resources need to be constantly updated and maintained to maintain its timeliness and effectiveness. It can be seen that although colleges and universities have accumulated a large number of digital teaching resources, there are still many problems in the application of physical education. In order to solve these problems, colleges and universities should strengthen the research and exploration of digital teaching resources, improve teachers ' digital teaching ability, strengthen resource construction and maintenance, so as to promote the development of physical education to digital and intelligent direction.

### 3.2 The lack of interoperability of digital teaching platform restricts the sharing of teaching resources of physical education curriculum

In terms of platform construction, the construction of digital teaching platforms is also increasingly improved, such as MOOC, SPOC and Dingding platforms, which provide students with convenient learning approaches and rich interactive experiences[8]. Although the digital teaching platform has made significant progress, providing students with a broad learning space and rich interactive experience, there are still some problems to be solved in practical application. First, the quality of platform resources is uneven. Although these platforms bring together a large number of learning resources, not all resources have high-quality teaching value. Some of the course contents are too simple or too complex to meet the learning needs of different students ; at the same time, the design of some courses lacks innovation, and it is difficult to stimulate students ' interest in learning. Second, the interoperability between platforms needs to be improved. At present, most of the digital teaching platforms adopt independent system architecture and data standards, which makes it difficult to share and exchange information between platforms. This not only affects the students ' learning experience, but also increases the difficulty of teachers and managers. Third, the digital teaching platform also has certain risks in privacy protection and data security. Students ' personal information and learning data are stored and transmitted on the platform. If the security protection measures of the platform are not in place, it may lead to the risk of data leakage and privacy infringement.

### 3.3 The lack of deep integration of digital technology applications has affected the development of physical education curriculum teaching resources

In terms of technology application, the construction of digital teaching resources for physical education courses in colleges and universities also shows a diversified trend. The application of advanced technologies such as virtual reality (VR), augmented reality (AR) and artificial

intelligence (AI) makes physical education more vivid and intuitive, and helps to improve students ' interest and effect in learning[9]. In addition, the application of big data analysis, learning analysis and other technologies also provides strong support for the personalization and precision of physical education[10]. However, although the construction of digital teaching resources of physical education curriculum in colleges and universities has made remarkable progress in the application of technology, there are still some problems and challenges. First, the popularity of technology applications is not balanced. Some universities have advanced digital teaching equipment and technology, which can make full use of innovative tools such as virtual reality, augmented reality and artificial intelligence to provide students with a variety of learning experiences. However, due to the limitations of funds, equipment and technical personnel, some colleges and universities are difficult to keep up with this trend, resulting in a relatively low degree of digitization of sports teaching resources. Secondly, the integration of technology application and physical education needs to be strengthened. Although the application of advanced technology has brought many conveniences and possibilities to physical education, how to effectively integrate these technologies with physical education and make them play a real role is still a problem that needs in-depth research and exploration. At present, there are still some blindness and formalism in the application of technology in some colleges and universities, and there is a lack of customized solutions to the characteristics and needs of physical education. Third, the quality of digital teaching resources is also a matter of concern. In the construction of digital teaching resources, we should pay attention to the scientificity and accuracy of the content, and avoid the misleading of low-quality, repetitive or wrong information to students.

### 3.4 The application of digital teaching resources has shackled the display of physical education teachers ' teaching ability

With the rapid development of education informatization 2.0, the application of digital teaching resources in education and teaching has become more and more extensive. With their unique advantages, they have greatly enriched the teaching methods and improved the teaching effect. However, in the current field of physical education, some teachers still lack the application consciousness of digital teaching resources, which undoubtedly restricts the comprehensive display of teachers ' own ability and also affects the improvement of physical education quality[11]. First, in the context of the lack of digital teaching resources, physical education teachers often can only rely on traditional teaching methods, such as explanation, demonstration and practice. Although these methods are classic, they are limited by time and space, and it is difficult to fully demonstrate the professional quality and teaching ability of physical education teachers. Secondly, for complex sports movements and techniques, simple explanations and demonstrations may be difficult for students to fully understand and master. Third, because some physical education teachers lack the application awareness of digital teaching resources, teachers are often limited to traditional teaching methods and cannot make full use of these advanced technologies, resulting in a dull classroom atmosphere and low student participation. Fourth, due to the lack of application awareness, some physical education teachers often adopt a one-size-fits-all teaching method, which cannot meet the individual needs of students and affects the teaching effect. The application of digital teaching resources can also help physical education teachers to reflect on teaching and improve their ability. Fifth, digital teaching resources also provide teachers with rich learning resources. Teachers can continuously improve their professional quality and teaching ability through online learning, communication and discussion. However, due to the lack of application awareness, some physical education teachers often ignore this, resulting in teachers ' teaching level and ability can not be effectively improved.

## 4. Optimization path of digital teaching resources construction of physical education curriculum in colleges and universities

In 2010, China proposed to realize the modernization of education and strengthen the development and application of high-quality educational resources in the Outline of the National Medium and Long-term Education Reform and Development Plan ( 2010-2020 ). In 2018, the " Education Informatization 2.0 Action Plan " issued by the Ministry of Education and the " China Education Modernization 2035 " issued by the Ministry of Education in 2019 clearly stated that it is necessary to give full play to the " potential " of data resources in the field of education to promote the innovation and development of digital teaching resources. Therefore, by summarizing the current situation of digital teaching of physical education, aiming at the problems of digital teaching resources of physical education curriculum in colleges and universities, this paper puts forward the optimization path of digital teaching resources construction of physical education curriculum in colleges and universities from the aspects of independent construction, co-construction and sharing, lifelong education and people-oriented.

### 4.1 Create a digital teaching resource model of physical education curriculum to stimulate students ' interest in physical education.

Optimizing the construction of digital teaching resources of physical education curriculum in colleges and universities aims to provide more abundant, diversified and efficient support for physical education teaching through systematic integration and innovative application of digital technology. To create a unique digital teaching resource model of physical education curriculum, we should analyze specific problems and teach students in accordance with their aptitude. First, the digital teaching resource model of physical education curriculum should be closely combined with the characteristics of physical education discipline, and physical education discipline should pay attention to practicality and experience. In the construction of digital teaching resources, we should fully consider the actual needs of physical education curriculum, such as action demonstration, skill practice, physical fitness test, etc., to create a targeted teaching resource library. Secondly, the model should emphasize personalized learning and teaching. By using big data, artificial intelligence and other technical means, this paper makes an in-depth analysis of students ' sports interest, ability level and learning progress, and provides personalized learning path and resource recommendation for each student to meet their diversified learning needs. Third, the digital teaching resource model of physical education curriculum should also pay attention to the integration of practical teaching and theoretical teaching. By introducing advanced technologies such as virtual simulation and augmented reality to simulate real sports scenes, students can better understand and master sports skills and improve their practical application ability on the basis of theoretical learning. Finally, we should pay attention to the openness and sharing of resources. By constructing an open resource platform, the interconnection of resources inside and outside the school is realized, and the co-creation and sharing of resources and sustainable development are promoted. At the same time, we will strengthen cooperation and exchanges with other universities, enterprises and research institutions to jointly promote the continuous progress of the construction of digital teaching resources for physical education courses. In short, by creating a distinctive digital teaching resource model of physical education curriculum, we should take the actual needs of students as the starting point, design from the perspective of practicality, flexibility and integrity, constantly stimulate students ' interest in physical education learning, and tap internal needs, so as to improve the effect of physical education learning.

### 4.2 Construct the digital teaching resources platform of physical education curriculum, promote the innovation and development of teaching resources.

The construction of digital teaching resources of physical education curriculum in colleges and universities is to build a digital teaching resource platform with perfect functions and easy to use, so as to provide efficient and convenient teaching resource services. First, the digital teaching resource platform is a bridge connecting teachers, students and resources, and its construction quality directly affects the use effect and management efficiency of resources. Therefore, the construction of a perfect digital teaching resource platform is an important way to optimize the construction of digital teaching resources for physical education courses in colleges and universities. Secondly, the platform has a rich teaching resource library, including various types of physical education curriculum video, courseware, exercises and other teaching resources, in order to meet the learning and teaching needs of different users. Third, the platform should also support the classification, retrieval and recommendation functions of resources, so that users can quickly find the required resources, and the platform can provide convenient teaching tools and services. For example, support online teaching, homework management, examination evaluation and other functions ; fourthly, the platform can also provide data analysis and visualization tools to help users understand students ' learning and teaching effects. The platform has a good user experience and interactivity, including simple and clear interface design, smooth operation experience and rich social interaction functions. Finally, multi-terminal access and use should be supported so that users can access and use resources and services on the platform anytime and anywhere.

### 4.3 Strengthen the training of physical education teachers ' information application ability, and help the construction of teaching resource platform.

The key to optimizing the construction of digital teaching resources of physical education curriculum in colleges and universities is to improve teachers ' information literacy and skills, so that they can skillfully use modern educational technology for teaching design and implementation. Teachers are the main users and creators of digital teaching resources. Teachers ' information literacy and skill level directly affect the use effect and creation quality of resources. Therefore, improving teachers ' information literacy and skills is an important way to optimize the construction of digital teaching resources for physical education courses in colleges and universities. First, we should strengthen the information training of teachers. It mainly provides regular information technology training courses, so that teachers can master basic information technology knowledge and skills, such as resource search, collation, production and release ; at the same time, we should also pay attention to the cultivation of practical operation ability, combined with specific teaching cases, so that teachers can apply the technology they have learned to practical teaching. Second, teachers should be encouraged to participate in information-based teaching practice. Through the organization of information-based teaching competitions, exhibitions, and related activities, the enthusiasm and creativity of teachers in engaging with information-based teaching can be effectively stimulated; at the same time, we should also establish a corresponding incentive mechanism to commend and reward teachers who perform well in information-based teaching. Thirdly, communication and cooperation between teachers should be strengthened. Through the establishment of teachers ' network training platform and sharing teaching experience, teachers from different schools and different majors can share their own experience and experience, and promote mutual learning and reference among teachers. At the same time, we should also strengthen the cooperation between schools and off-campus institutions, and introduce more information-based teaching resources and technical support.

### 4.4 Deepen the construction of digital teaching resources evaluation system, and promote the diversified development of teaching resources.

In the construction of digital teaching resources of physical education curriculum in colleges and universities, the construction and implementation of diversified evaluation system provides a test tool for digital teaching resources. First, it is necessary to pay attention to students ' learning outcomes, pay attention to the evaluation of learning process, learning attitude and innovation ability, and accurately evaluate students ' learning situation by introducing data analysis model, so as to provide strong support for teaching. For example, when constructing a diversified evaluation system, the data recording function of the online learning platform is used to record and analyze the students ' online learning time, learning progress, and interaction times in detail. By comparing the learning data of different students, teachers can find out the learning characteristics and problems of students, and then adjust the teaching strategies to improve the teaching effect. Second, the implementation of the diversified evaluation system also needs to pay attention to students ' feedback and participation. Through questionnaires, student symposiums, etc., students ' opinions and suggestions on teaching resources and teaching methods are collected to provide an important reference for the improvement of the evaluation system. Thirdly, the introduction of students ' self-evaluation, mutual evaluation and other evaluation methods can enhance students ' subjective consciousness and sense of participation, and promote the improvement of learning motivation. When implementing a diversified evaluation system, colleges and universities pay special attention to students ' feedback and participation. Through regular student seminars, students are encouraged to put forward opinions and suggestions on teaching resources and teaching methods. Fourthly, it is necessary to introduce students ' self-assessment and mutual assessment, so that students can have a deeper understanding of their own learning situation in the evaluation process and stimulate their learning motivation. And by clarifying the teaching objectives and course content, the evaluation criteria and indicators can be determined to ensure the pertinence and effectiveness of the evaluation system. In addition, the evaluation system needs to be operable and sustainable in order to be widely used and continuously improved in practical teaching. As the famous educator Tao Xingzhi said : ' Education can not create anything, but it can inspire children 's creativity to engage in creative work. The construction and implementation of the diversified evaluation system is to stimulate students ' creativity. The construction and implementation of the diversified evaluation system needs to be closely combined with the teaching objectives and curriculum content to promote the overall development of students.

## 5. Conclusion

The educational resources of ordinary colleges and universities are the material basis for maintaining the survival and sustainable development of ordinary colleges and universities. The digital teaching resources of physical education curriculum are a new form of education and teaching resources in ordinary colleges and universities under the background of informatization. It is an important carrier to promote the transformation of ordinary college education from scale expansion to quality improvement. This paper finds the value of independent construction, co-construction and sharing, lifelong education and people-oriented, and deeply analyzes the current situation and existing problems of digital teaching resources of physical education curriculum in colleges and universities. With the help of the advantages of educational informationization 2.0. It proposes the development of a digital teaching resource model for physical education curricula. It emphasizes the construction of a comprehensive digital teaching resource platform, enhancement of information application skills among physical education teachers, and the establishment of a robust evaluation system for digital teaching resources. These

optimization strategies aim to advance the informatization and intelligent development of digital teaching resources for physical education curricula in Chinese colleges and universities. By maximizing their effectiveness, these efforts seek to contribute significantly to the informatization and modernization of physical education curricula in China.

## Acknowledgments

Fund projects: Project of social science achievement appraisal committee of Hunan Province “Research on the construction mode and optimization path of digital teaching resources of physical education course in colleges and universities under the background of educational informationization 2.0”(XSP22YBC069)

## References

*[1] Any friend group. China's Education Informatization in the New Era - Interpretation of the "Education Informatization 2.0 Action Plan " [J].Electrified Education Research, 2018(6):27-28.*
*[2] Du, Zhanyuan. "Accelerate the Integration of Innovation and Development to Make Education Informatization 2.0 a Reality: The 2018 National Education Informatization Work Conference Was Held." China Education Daily [N], 2018.*
*[3] Liu Huaijin, Nie Jinsong, Wu Yixiong. The construction of digital teaching resources in colleges and universities : ideas, strategies and paths-based on the perspective of educational informatization [J].Modern education management, 2015, (09):89-94.DOI:10.16697/j.cnki.xdjygl.2015.09.017.*
*[4] Sun Zhe, Gan Yuyang. The realistic basis and optimization path of digitally empowering the high-quality development of online teaching in higher education [J].Modern education management, 2023, (12):122-128.DOI: 10.16697/j.1674-5485.2023.12.013.*
*[5] Lu Hong. Analysis and evaluation of the current situation of education data opening in China--Taking the education data of 23 local government data open platforms as an example [J].China Education Informatization, 2019(15) :1-6.*
*[6] Wang Hongmei, Wang Yunwu, Wu Jian. New exploration of the ternary relationship between 3D digital teaching resources, future classrooms and smart learning [J]. Journal of Distance Education, 2017,35 (02) :29-35.DOI: 10.15881/j. cnki.cn33-1304/g4.2017.02.004.*
*[7] Chen Zhiling, Sun Juan, Gao Yingbo. Research on the development path of digital physical education in China [J].Journal of Nanjing Institute of Physical Education (Social Science Edition), 2015,29 (04) : 99-105.DOI:10. 15877/j. cnki.nsic.2015.04.016.*
*[8] Tang Lingqiu. Research on the Construction of Provincial Education Big Data Platforms under the Background of Education Informatization 2.0 [J]. Contemporary Education Forum, 2021, (04): 99-106. DOI: 10.13694/j.cnki.ddjylt. 20210525.001.*
*[9] Wang Zipu, Liu Dachao, Jiang Yueshuai, Qin Dan, Zhong Bingshu, Gong Bingnan, HeMing. From Technological Development to Policy Innovation: Theoretical Logic and Practical Direction of Sports Science and Technology Innovation [J]. Journal of Shanghai University of Sport, 2024, 48(4): 13-25. DOI: 10.16099/j.sus.2023.09.25.0010*
*[10] Chang Yi, Chang Dajun. The value reflection and practical approach of school physical education in the process of socialization of college students in the new era [J].Journal of Shenyang Sport University, 2019, 38 (03):126-131.*
*[11] Yin Zhihua, Guo Mingming, Jia Chenyu, etc. The demand mechanism, key dimensions and implementation strategies of artificial intelligence to promote the development of physical education [J]. Journal of Chengdu Sport University, 2023, 49(02):73-81.DOI:10.15942/j.jcsu.2023.02.011.*