

Research on the Personalized Teaching Strategy of College PE under The Artificial Intelligence Power

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Abstract

The research takes artificial intelligence as the direction, and discusses its personalized implementation in college physical education teaching. Analysis in the teaching resource allocation, virtual reality and augmented reality technology fusion, and the use of training monitoring system, points out that the artificial intelligence can face physical education in colleges and universities, put forward to artificial intelligence as the leading university sports personalized teaching strategy, through innovative technology research and development, promote education transformation, and strengthen the teacher skills, to adapt to the intelligent trend, gradually improve the data protection, promote discipline integration, broaden the cooperation and promote successful cases, sharing wisdom, aims to provide reference for colleges and universities physical education, promote artificial intelligence technology is widely used in the field of teaching.

Keywords

Artificial intelligence; college physical education; teaching strategy.

1. Introduction

With the rapid development of science and technology, artificial intelligence technology has gradually penetrated into various industries and fields. For physical education teaching in colleges and universities, artificial intelligence shows great application potential. However, the current application status is still facing many limitations, such as high technology implementation cost, shortage of professional teachers, data safety and other problems, which limit the further expansion of artificial intelligence technology, but also affect the innovation and development of physical education in colleges and universities. Based on this, it is of great significance to promote the reform and innovation of college physical education under the study of artificial intelligence, solve the existing problems and explore feasible paths.

2. Analysis of the Application of Artificial Intelligence Technology in College Physical Education Teaching

2.1. Intelligent allocation and management of teaching resources

In college physical education teaching, the introduction of artificial intelligence technology has brought a revolutionary transformation to the allocation and management of teaching resources. With the help of intelligent means, the management efficiency of physical education teaching resources has been significantly improved. Through the advanced artificial intelligence system, teachers can easily realize the rapid retrieval and processing of a large number of teaching resources, thus saving the tedious manual finishing time in the traditional way. More advanced is the introduction of intelligent learning platform, which can collect and analyze students'sports data in real time. The data includes sports performance, and goes deep into students's physical state, sports preference and other dimensions. Based

on detailed data accumulation and analysis, teachers can work out personalized teaching programs that meet the needs of students. At the same time, some platforms can predict students' subsequent performance through historical data, and provide forward-looking training and guidance accordingly, so as to make teaching more accurate and efficient.

2.2. Integrate virtual reality and augmented reality technology

The integration of virtual reality (VR) and augmented reality (AR) technology is leading the intelligent transformation of physical education teaching in universities. The technology has the ability to simulate diversified real sports scenes, so that students can feel as if they are in the competition site, deeply understand the essence of sports, and at the same time, construct a unique training situation that is difficult to reach by traditional teaching means. With the help of VR technology, students can experience the tense atmosphere of the competition, understand the high-intensity confrontation environment, effectively sharpen their own competitive skills and improve their psychological quality. Using AR technology can add virtual objects in the real playground, let the students wear AR glasses real-time trajectory, feeling speed, attitude, help students accurately adjust their movements, optimize skills performance, enrich the sports teaching interactive and interesting, also provides students with valuable opportunities to practice, accelerate the process of motor skills.

2.3. Training and monitoring system based on intelligent technology

The integration of intelligent technology has built a perfect training monitoring system for the physical education teaching in colleges and universities, so that the teaching guidance tends to be refined and scientific. With smart wearable devices, such as smart wristbands and watches, teachers can immediately capture students' movement parameters, including heart rate fluctuations, step frequency changes and overall activity, etc., and data becomes an important basis for in-depth analysis and evaluation. Combined with intelligent equipment, it is further expanded to monitoring students' physiological conditions, such as sleep quality and fatigue index, depicting a comprehensive portrait of student health for teachers [1]. Based on the data insight, the teachers can quickly identify the students' potential problems in the training, adjust their training strategies, and effectively prevent sports injuries. The personalized training feedback report automatically generated by the intelligent system enables students to intuitively perceive their own movement effect and growth trajectory, which enhances the rigor of teaching and greatly improves students' learning motivation.

3. Artificial Intelligence Enables the Restricting Factor in College Physical Education Teaching

3.1. The technology implementation cost is relatively high

Physical education teaching in colleges and universities and the promotion of artificial intelligence technology are facing high-cost challenges. On the one hand, the purchase cost of smart equipment is not high, including intelligent monitoring tools, VR / AR equipment, etc., which all require large investment. At the same time, the follow-up maintenance and upgrade of high-tech equipment also need continuous capital injection to adapt to the fast pace of technology iteration and ensure the advanced nature and applicability of the equipment. On the other hand, the customized development of AI systems requires the formation of a professional team and the high research and development costs. For universities with limited funds, the construction of a complete intelligent physical education teaching system covering hardware deployment, software development and network construction may require a huge amount of cost, which will undoubtedly bring a heavy burden to the budget of universities, and may squeeze out the capital space of other teaching and research projects [2].

3.2. There is a shortage of professional teachers

In discussing the enabling process of artificial intelligence to physical education in colleges and universities, the significant constraint factor lies in the lack of professional teachers. To effectively integrate artificial intelligence technology into physical education teaching requires teachers to be proficient in the theories and methods of physical education teaching, and to master the application and maintenance of intelligent technology skillfully. Teachers are required to be able to receive professional technical training and accumulate experience through long-term practice in order to be able to skillfully operate intelligent teaching equipment and understand the technical principles behind it. The application of technology requires teachers to have certain data analysis ability, and to be able to scientifically use the data collected by intelligent monitoring equipment, so as to provide students with accurate and personalized teaching guidance. However, it is difficult for current college physical education teachers to meet the unified standard, and some teachers have a low understanding of artificial intelligence technology, so it is difficult to use it flexibly in teaching practice.

3.3. Training and monitoring system based on intelligent technology

Artificial intelligence technology is highly dependent on data, and the privacy and security protection of students' data has become an urgent problem to be solved. First of all, the sensitive information of students' exercise habits and physical conditions collected by intelligent devices will, once they fall into the hands of criminals, or seriously damage the interests of students. In the face of data storage and transmission process, facing the risk of hacker attack, especially in the context of the increasingly severe network security situation, colleges and universities need to adopt more rigorous security strategies to ensure data information. Secondly, the problem of improper use and wrong application of information is more serious. For example, teachers and managers lack the understanding of the relevant legal regulations when processing the data, which cannot ensure that the data only serves education and scientific research, and it is difficult to avoid the use of [3] for commercial or other paths. For example, student health and sports information may be used in commercial marketing, which may have a negative impact on students' health and academic education.

4. Personalized Teaching Strategy of College PE Based on Artificial Intelligence

4.1. Innovative technology research and development to promote education transformation

The transformation of technological innovation and intelligent application is the driving force of personalized physical education teaching in colleges and universities. Colleges and universities should take the initiative to increase their investment in the field of artificial intelligence technology, and can cooperate with technology companies and research institutions to jointly develop intelligent equipment and systems suitable for physical education. It includes smart wearable devices that can monitor students' movement status in real time, such as smart devices that record movement behavior and body data, and feed back to the teacher end combined with wireless technology to realize synchronous sharing of data. The intelligent training system for diversified sports projects should intelligently adjust the training intensity and content based on the students' sports data, so as to accurately facilitate the improvement of skills. Colleges and universities should keep up with the technical trend to ensure the synchronous pace of The Times. With the continuous optimization of artificial intelligence algorithms, the accuracy and efficiency of data analysis have been greatly improved, providing teachers with an in-depth insight into students' sports performance, from which more targeted improvement strategies can be extracted [4]. For example, the introduction of

machine learning and deep learning technology, the in-depth analysis of massive sports data, the mining of potential sports rules and innovative training methods, can inject scientific strength into physical education teaching, and help strengthen students' physical fitness. At the same time, in order to deepen the exploration of the application of artificial intelligence technology in physical education, colleges and universities should set up special research teams, such as artificial intelligence integration laboratory, integrate cutting-edge intelligent equipment, systematically carry out experiments and research, verify the effectiveness of technology and continuous innovation, and develop teaching tools and models that meet the actual needs. To encourage teachers and students to actively participate in scientific research projects, special scientific research funds can be set up in combination with competitions. Universities can organize academic exchanges and technical seminars at home and abroad to build channels for learning the latest research results and technological trends. It can cooperate with enterprises to train interdisciplinary professionals, provide intellectual support for technological innovation, and also provide fresh blood with artificial intelligence skills in the field of physical education, and jointly promote the transformation of physical education to intelligent and personalized.

4.2. Strengthen teachers' skills, to adapt to intelligent teaching

In promoting the personalized teaching strategy of college physical education based on artificial intelligence, it is necessary to strengthen the professional skills of physical education teachers and adapt to the intelligent teaching environment. Colleges and universities should take improving teachers' ai technology application ability as the core task, and promote the upgrading of skills with diversified training and communication mechanisms. First of all, special training can be held regularly, and authoritative experts in the field of artificial intelligence can be invited to give face-to-face lectures, deeply analyzing the operation essence of intelligent devices, and combining data analysis skills to help teachers with technical innovation. Online resources can be used to build an online learning platform, and a series of courses can be launched simultaneously, such as "Innovative application of artificial intelligence in physical education teaching", to provide teachers with a flexible and convenient learning path. Secondly, teachers are encouraged to actively participate in academic conferences and technical research at home and abroad, not only to master the most cutting-edge technical trends and research results, but also to broaden their horizons and stimulate the inspiration of teaching innovation. Based on this, in order to promote the deep integration of theory and practice, colleges and universities can set up teaching experiment projects to provide teachers with real teaching scenarios, so that new technologies can be tested and improved in practice. The tutorial system can be implemented, and the experienced senior teachers can lead the new teachers to form a good atmosphere for technology inheritance and improve the overall technical strength of the teaching team.

4.3. Improve data protection and ensure information security

For the security and privacy of students' data, colleges and universities need to build a comprehensive data security protection system to protect data security from system, technology to emergency treatment. On the one hand, detailed data management procedures should be formulated to clarify the standards for data collection, storage, application and destruction in the whole life cycle, strictly limit data access rights, only allow authorized personnel to contact students' data, and sign confidentiality agreements to strengthen responsibility. At the technical level, advanced encryption protocols such as SSL / TLS can be used to build a defense line for data transmission and effectively resist the risk of external attacks and data tampering. At the same time, regular data security audit to identify potential risks to ensure that the protective net is impeccable. On the other hand, colleges and universities can establish a sound data backup mechanism, regularly implement the backup

processing of core data, and add double insurance for data security to prevent data loss caused by system failure or operation error. In the face of data access monitoring and synchronous recording, it is necessary to detect and block any unauthorized access behavior in time to ensure the legitimacy and compliance of data access. It can be strengthened regularly, enhance the data security vigilance of teachers and students, and form a data security culture [5] with full participation. For the possible data leakage crisis, an emergency response mechanism should be established to ensure that the event can act quickly, minimize the loss and impact, and build a solid defense line of data security in the personalized teaching strategy of university physical education.

4.4. Promote the integration of disciplines and broaden the vision of cooperation

Promoting the deep integration and extensive cooperation between disciplines is the key to promoting innovation. Therefore, colleges and universities should actively build a bridge between physical education, computer science, data science and other disciplines, set up interdisciplinary research groups, and encourage physical education teachers to join hands with experts in various fields to tap the potential of artificial intelligence technology in physical education teaching. For example, establish an interdisciplinary research team to gather multi-disciplinary wisdom, focus on the frontier exploration of artificial intelligence in the field of education, and inject fresh blood into physical education. Colleges and universities should promote the interdisciplinary curriculum setting, and cultivate the interdisciplinary talents who are proficient in the physical education teaching and can master the artificial intelligence technology. For example, integrating computer science into physical education courses can add data science elements to stimulate students' enthusiasm for the integration of sports and science and technology [6]. At the teacher level, they should be encouraged to participate in interdisciplinary scientific research activities, deepen technical understanding, and strengthen intelligent cooperation based on practical cooperation. For example, in the sports data analysis project based on artificial intelligence, physical education teachers can contribute professional sports knowledge, and computer and data science experts can be responsible for building data analysis models and algorithms. The two sides cooperate to jointly enhance the depth of the project research and strengthen the application value in the field of education.

4.5. Promote successful cases and share intelligent achievements

Colleges and universities should take the initiative to build platforms, organize experience exchange meetings, invite pioneers to share the successful practice of AI technology in physical education teaching, inspire colleagues with examples, and promote the learning and deepening of technology. For example, combining with academic papers, technical reports and other academic channels, analyze and display the application effect and unique advantages of intelligent technology in physical education teaching, which can enhance the influence of technology. For example, the "AI Enabled Physical Education Forum" was held, inviting teachers who have successfully applied artificial intelligence technology in physical education as keynote speakers to show how technology improves teaching efficiency and promotes students' participation based on on-site demonstration and case sharing. At the same time, the "AI PE teaching Application case was compiled and published", including professional academic papers and technical reports, to provide teachers with detailed learning and reference materials for teachers. Colleges and universities can combine local television stations, education channel and social media platform, launched "AI sports teaching exhibition" series, with vivid story, rich video material, wide spread of artificial intelligence technology innovation in the field of physical education teaching practice, further enhance the public cognition and interest in technology application, create a strong technology innovation atmosphere [7].

5. Conclusion

With the development of artificial intelligence technology, new technologies, new ideas and new methods are emerging constantly, and physical education in colleges and universities will usher in a new era of more personalized, intelligent and efficient. The school level actively introduces advanced artificial intelligence technology and builds an intelligent physical education teaching platform, providing rich and diversified teaching resources and learning environment for teachers and students. By formulating relevant policies, teachers are encouraged to carry out technological innovation and teaching reform, and promote the implementation of personalized teaching strategies. At the teacher level, we should constantly improve our information literacy, strengthen the application ability of artificial intelligence, explore and practice personalized teaching methods based on artificial intelligence, meet the diversified learning needs of students, and realize a new chapter of education with the help of science and technology.

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