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Commentary

Application of Sensor-Based Intelligent Wearable Devices in Information Physical Education

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Description

The efficiency of classroom teaching, a sensor-based intelligent wearable device method is proposed. The method is divided into four stages: generalization-differentiation-solidification-automation. At the stage of generalization and differentiation, teachers should first demonstrate and drill the correct movements and brief notes for attention. It is not appropriate to emphasize the details of movements too much. In the movement exercise of the differentiation and solidification stage, attention should be paid to guiding students to experience the process of coordinating and generating force and to enhance the experience of muscle sensation and perception. In the solidification stage, students' mastery of technical movements tends to be stable and they should strengthen the combination with other mastered technical movements. In this stage, attention should be paid to the cultivation of individual technical style. The results showed that 46% of the students in the experimental group thought badminton special learning was interesting, while only 15% of the students in the control group held the same attitude. 39% of the students in the experimental group thought badminton special learning interesting, and 31% of the students in the control group; in the experimental group, 15% of students thought that their interest in badminton became average after a semester of special courses, while in the control group, 39% students should be interested in badminton. None of the students in the experimental group thought badminton learning was less interesting, while 15% of the students in the control group still felt badminton learning became less interesting.

Economic Globalization

With the in-depth development of economic globalization in the twenty-first century, various high-tech information technologies have gradually developed vigorously. The rapid development of information technology promotes the reform and innovation of university teaching. The trend of educational informationization and efficient utilization of resources is becoming more and more prominent. The application of intelligent wearable devices in college physical education teaching practice is a beneficial attempt to combine high-end information equipment and teaching. The successful docking of the two is conducive to improving the teaching mode, tracking mode and evaluation mode of college physical education teaching practice, accurately docking students' practice and mastery of physical education practice and promoting the overall good development of teaching. School physical education as a basic stage of physical education is gradually being paid attention to. How to perfect the school physical education better to realize the integration of inside and outside class, making the physical education teaching process no longer limited to the classroom, and how to explore the effective extension path are the problems in front of physical education workers. Physical education in colleges and universities is gradually moving towards the direction of combining diversification, flexibility and informatization. In recent years, innovative research on wearable devices and other emerging information technologies has been frequently mentioned in various academic reports. Scholars have expounded on the development of wearable technology in different fields from different perspectives. At present, the concept of combining wearable devices with sports has taken shape, and more and more applications and promotions combining with sports are also in progress. In the context of the rapid development of information technology, combined with previous studies on wearable technology, this article carries out a teaching experiment design for the daily teaching of badminton elective courses in colleges and universities. It tries to find new methods and means of wearable device-assisted teaching, stimulate students' enthusiasm for participation, improve the controllability and accuracy of college badminton elective teaching, and achieve the goal of steadily improving the teaching effect of college badminton elective teaching.

At the present stage, physical education teaching in colleges and universities in China is still relatively traditional. Through "spoon-feeding" teaching means, the preliminary mastery of skills and the attainment of students' physical fitness test are achieved, but the teaching objective of cultivating students' interest in learning and improving their subjective initiative in learning is not fully considered. After the "sweet period of teachers and students", most students lack follow-up learning enthusiasm and motivation, resulting in absent-minded students in class, decreased executive ability, teachers' teaching weakness, poor teaching effect, and other phenomena. Some scholars have shown that the most significant characteristic of motor skill acquisition is that it is improved based on practice. With the progress of effective practice, the practitioner can achieve more accurate and punctual target movements. The effective practice here includes two aspects: "repetition" and "feedback." Sufficient repetitions will solidify the movements and make them proficient. Accurate feedback helps practitioners find and correct deviations in movements and achieves refinement of technical movements. The traditional teaching mode of badminton technique in colleges and universities mainly adopts teachers' explanation and demonstration and students' repeated practice. In the early stage of technical movement teaching, there are many imitation exercises, and it is difficult for students with a weak ability to construct movement representation to find the correct movement experience. However, when students make mistakes in the process of practice, they often only rely on the feedback form of the teacher's language description and demonstration to guide students to correct them. This kind of simple language description cannot make students clearly recognize and understand the accuracy of their own actions, and it is easy to increase the probability of repeated guidance and correction by teachers, resulting in heavy work for teachers and greatly reducing the efficiency of classroom teaching.

Technical Movement Learning

An intelligent sensor is used as a novel teaching aid. The realization of its functions is based on the formation of rules of motor skills. The main task is to provide intuitive and effective information feedback for practitioners and deepen their representation cognition through the application of modern detection devices, such as intelligent sensors, in the process of technical movement learning and practice in class. Through the sensor device attached to the bottom of the badminton racket handle, the intelligent mobile terminal is connected to realize real-time monitoring of students' movements in the process of badminton practice. Each swing action of students is recorded in the form of a movement track and numerical display of swing speed, strength, radian and other indicators, so as to replace the simple language description of teachers in the past, so that the teaching feedback information will be directly and specifically present. The teacher's explanation is optimized and the student's practice experience is enhanced.

The traditional teaching mode is still adopted in PE technology teaching in most colleges and universities in China. It is mainly reflected in the educational thought represented by the Herbart school, which advocates that teachers are the main body of classroom teaching. Teachers mainly explain and demonstrate and students imitate and practice, showing a relatively single teaching mode. We can see that in this mode, teachers are easy to control and organize badminton classes. Using conventional teaching methods and means to teach basic skills to students, students can repeat and imitate until they master the movements. This teaching mode can help students to complete the acquisition of basic skills. However, in the teaching process, it is not conducive to give full play to students' subjective initiative and does not play a good role in promoting the improvement of students' interest in learning and the cultivation of their learning initiative. The use of intelligent sensors to assist badminton teaching requires teachers to actively create research-based learning modes and try to achieve simple guided teaching. Teachers are required to encourage students to make full use of real-time numerical information feedback provided by sensors such as hitting speed, strength, and arc and standard degree evaluation of movements in the process of practice, to form a conscious self-evaluation and to explore standard badminton technical movements, appropriate power generation and timing. Through the effective collection of kinematic parameters in the swing process, students can be promoted to discuss and communicate with each other, deepen their understanding and grasp of correct badminton technical movements and return to the principal status of students in class.