MODERN TECHNOLOGIES IN THE SYSTEM OF SPORTS TRAINING

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Аннотация: в данной статье рассматриваются некоторые инновации в сфере физкультурно-оздоровительных технологий и их прямое влияние на спортивную сферу общества, а также применение технических новинок, оказывающих положительный эффект на конечный результат в спортивных соревнованиях. Доказано, что диагностические устройства, датчики и измерители дают возможность контролировать и управлять физическим состоянием спортсмена в течение всего подготовительного процесса. Цифровые технологии являются превосходным средством для популяризации спорта у молодежи, они делают тренировочный процесс увлекательным, интересным и менее изматывающим.

Ключевые слова: инновации, новые технологии, спорт, здоровье, физическая культура, сотрудники органов внутренних дел (ОВД).

Izohlar: ushbu maqolada jismoniy tarbiya-sog‘lomlashtirish texnologiyalari sohasidagi ayrim innovatsiyalar va ularning jamiyatning sport sohasiga bevosita ta’siri, shuningdek, sport musobaqalarida yakuniy natijaga ijobiy ta’sir ko‘rsatadigan texnik yangiliklarni qo‘llash ko‘rib chiqiladi. Diagnostika qurilmalari, sensorlar va o‘lchagichlar sportchining jismoniy holatini butun tayyorgarlik jarayoni davomida nazorat qilish va boshqarish imkonini berayotgani isbotlandi. Raqamli texnologiyalar yoshlarda sportni ommalashtirish uchun ajoyib vosita bo‘lib, ular mashg‘ulot jarayonini qiziqarli, qiziqarli va unchalik charchamaydi.

Kalit so‘zlar: innovatsiyalar; yangi texnologiyalar; sport; salomatlik; jismoniy tarbiya; ichki ishlar organlari (IIB) xodimlari.

Scientific and technological progress has had a huge impact on human life. The creation of the first electronic computers (computers) in the middle of the 20th century marked the beginning of the high-tech era. Over time, technology has improved and more and more introduced into all kinds of spheres of society. Wide distribution is due to the fact that various kinds of innovations greatly simplify our lives and allow us to solve the tasks. At the same time, the areas in which the latest technologies are used are also being improved and transformed into an improved version of itself.

Diagnostic equipment also does not stand still, allowing you to control the athlete’s condition during the training process, the use of various devices and systems that analyze information about the athlete during the load is simply necessary. In sports practice, video recording devices are actively used, which allow you to reproduce the image of the athlete’s movements for analysis and correction of equipment. Strain gauge devices that record the reference response during various exercises have become quite widely used, portable devices have been developed that conduct real-time research during training and competitive tests. Recently, automated systems have been actively used to control the actions of an athlete in team sports[1].

The data collected using diagnostic equipment allows you to optimize the activities of athletes of various sports, allowing you to choose the best recovery tools to increase sports performance.

Modern technologies help athletes not only during training, but also during

rest. Different rest is composed using information systems based on the needs of each athlete, allowing you to recover faster physically and psychologically, which makes it possible to train more efficiently.

Innovative technologies are based on the speed and versatility of their application, which influenced their spread in the field of sports. In the modern world, technology has become an integral part of sports activities. The scope of their application is multifaceted, from new material used for the manufacture of sports equipment or coating on the treadmill and football field, to instrumentation and surveillance systems of a new generation, used both in professional sports and for training amateur athletes. Examples of such modern technologies can be the Polar Team 2 system, designed for team sports like football or hockey. Thanks to her, the coach online monitors the work of each player through the monitor of his computer. In amateur sports, so-called "smart" things have gained immense popularity, for example, the Apple Watch smartwatch, which is capable of performing a huge number of functions: determining the respiratory rate and heart rate, acting as a communication device, and much more. The main task of such technologies is to assist athletes and coaches in predicting and coordinating the physical condition of the athlete, as well as assistance in choosing the methodological complex that will be most effective and contribute to improving the athlete’s results. Every year the importance of introducing modern technologies in the field of sports and the system of training athletes is becoming more and more. Complex development methods cover all sorts of aspects of a person’s life that can somehow affect their physical fitness. Modern technologies in professional sports are so developed that they began to be applied in other areas of society, which are also aimed at increasing the physical indicators of a person. Thus, the physical training of law enforcement officers can be one of the examples of such areas, since in order to successfully fulfill the official tasks assigned to them to protect public order, as well as protect citizens from unlawful encroachments, they need to have a certain physical form[2].

The main problem remains that the methodological support during the training is focused on increasing the functional capabilities of highly qualified athletes, while there are practically no developments in the method of improving technical skills.

One of the highest achievements in sports is the medal won at the Olympic Games, which are the largest international integrated sports competitions held every 4 years. For this kind of competition, athletes need to be one hundred percent ready in order to show the best result and take a prize. Innovative technologies and their correct application can have a huge impact on improving the efficiency of training and achieving the desired result.

So, when preparing Russian athletes for the Sochi Olympics in 2014, some technical innovations were used that had a positive effect on the final result, and led Russia to first place in the overall standings. These new products include: a specialized team of fans whose main task was to remotely support our athletes and weaken the opponent; attention simulator. This equipment contributes to the development of the athlete’s attention, namely, the skill is developed to concentrate on performing complex tactical and technical actions, directly at the time of the

competition; a special information portal, which is a kind of social network that provides assistance to both the athlete and the coach. The main task of such a portal is to accumulate and structure the information necessary for training an athlete. This kind of information can include: trainings, master classes, seminars, as well as analytical information about athletes representing other states. The convenience of the portal lies in its constant accessibility and ensuring a high level of communication between the coach and the athlete:

- Athlete status control technology - a program that allows you to receive real-time support from specialists, monitor the athlete’s status, and, if necessary, select ways to improve it; special psychoresonance training, forming, and, subsequently, increasing the motor skills of the athlete.

In addition to modern technological devices in the field of sports, artificial intelligence (AI) is widely used - a system that, using the information received, performs various actions and tasks, imitating human behavior. For the first time, the term artificial intelligence was mentioned by the American computer scientist John McCarthy in 1956, however, such machines were able to prove themselves only after forty years and they performed the same type of functions by the type of analysis. Over time, the set of functions has expanded significantly and today AI is widely used in sports activities. Such a system is able to memorize each feature and movement of a person during his physical exercises, which allows, together with a personal trainer, to determine the most effective model for training, which will ensure the correct distribution of the load on the body. In addition to the training process, the AI also determines how the athlete needs to rest in order to fully recover and be ready for the next competition or training process[3].

The creation of an AI that completely copies the athlete’s movements is impossible without diagnostic equipment and video recording devices that provide control over the athlete’s condition and allow detailed and repeated consideration of the image of his actions. Strain gauges are also used to monitor and record the reference response at the time of the exercise. With video recording technologies, the photo finish function also came to the sport, the main task of which is to determine the order of finishing of athletes and accurately establish the time of crossing the finish line. Innovations in modern sports training also include special technologies in the production of equipment for athletes, as well as the materials from which they are made. Such advanced companies as Adidas, Nike, Vibram and many others have achieved great success in this area by testing all technological solutions empirically and in special laboratories. Their shoe models are developed for each sport separately, and recently in professional sports sneakers with sensors are used, taking into account individual indicators: movement parameters, weight and pressure distribution at the time of movement. All received information is collected and analyzed in specially developed software[4].

Sports equipment is not lagging behind development. Thus, the adidas MiCoach smart soccer ball and C-Ring Dumbbells are equipped with advanced technologies that have a positive effect on training and increase their effectiveness. This ball was approved by the International Football Federation and developed back in 2010. The sensors built into it help to improve the technique of shots and gears of a

football player, as well as adjust the power of these actions. C-Ring Dumbbells or "smart" dumbbells are able to independently calculate the number of calories burned during training, and given these indicators, they will glow in different colors, which allows you not to overload the body and more competently build the training process.

Innovative technologies have had a huge impact on the sports sphere of society and, over time and the development of scientific progress, will only develop and improve it. In recent years, progress will accelerate more and more, new technologies are penetrating into all aspects of life, opening up new horizons for us, allowing us to achieve unprecedented successes, conquer new heights, but no matter how far the equipment goes, a person will still be at the head of it, after all, it is he who is the inventor and user of all these benefits, and without his direct participation, many things will lose their meaning and become unnecessary, therefore, no matter how high-tech the equipment and equipment would be, without a human age they will be useless[5]. Thus, we can conclude that sports today can no longer exist without modern technologies and their application extends to all its spheres and manifestations. Technical means increase safety and efficiency during training and provide objective refereeing at competitive events. In addition, with the emergence of innovative ideas in sports, there are those who want to engage in them and lead a healthy lifestyle, regardless of age and gender.

Literature:

1. Korchagina N. L. The use of artificial intelligence in the sports field//Regional Bulletin. 2020. № 9. S. 35-36.

2. Yakhshieva M. Sh., Akhmadova Ch. B., Zoirova M. E. Modern information technologies in sports training//Young scientist. 2020. № 11 (301). S. 201-203.

3. Aldoshin A.V., Aldoshina E.A. Application of an individual approach in training athletes in educational organizations of the Ministry of Internal Affairs of Russia//Science-2020. 2021.№ 3 (48). S. 71-76.

4. Telnykh D.A. Use of the principles of artificial intelligence in sports//Regional Bulletin. 2020. № 12. S. 48-49.

5. Chekasheva D.V., Mokeeva L.A. Modern technologies in sports//Scientific community of students of the XXI century. Humanities: a collection of articles based on the materials of the XXXIII student international scientific and practical