METHOD OF IMPROVING THE TECHNICAL MOVEMENT OF WRESTLERS BASED ON INNOVATIVE TECHNOLOGIES

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Abstract: This article analyzes the possibilities of using innovative technologies to improve the technical movements of athletes participating in the sport of wrestling, methodological approaches and practical applications. The role of video analysis, biotechnological equipment, digital monitoring tools and movement analysis programs in increasing the accuracy, speed and efficiency of athletes' movements is emphasized. Through innovative technologies, coaches and athletes will be able to identify technical errors, create individual training plans and prepare for competitions on a scientific basis. The study also considers the methodology of modeling technical and tactical movements, analyzing movements using 3D animations and analyzing them based on artificial intelligence. These approaches are considered an important factor in improving the sports results of wrestlers, improving the training process and strengthening competitiveness.

Keywords: wrestling, technical movements, innovative technologies, sports analysis, video analysis, modeling, training methodology, technical and tactical preparation.

Introduction

In today's age of globalization and digital technologies, the sports industry is also undergoing major changes. Sport is now not only a type of activity that develops on the basis of physical strength and talent, but also a complex system closely related to science, technology and innovative approaches. Therefore, in order to achieve high results in modern sports, along with the physical training of athletes, knowledge, analysis and strategic approaches using innovative technologies also play an important role.

Especially in recent years, advanced technological tools have been widely used around the world to organize physical training on a scientific basis, accurately analyze movements, determine training loads at an optimal level, predict the risk of injury and accelerate recovery processes. These technologies serve to conduct sports training effectively, safely and in accordance with individual characteristics.

The introduction of innovative technologies into the sports industry is considered an important tool in updating training methods, increasing efficiency and preparing competitive athletes. Measuring an athlete's movement, heart rate, muscle activity, psychological state and reaction speed using modern equipment is not only advanced technology, but also evidence that sport has entered a new era.

This article will comprehensively cover the essence of innovative technologies in sports, their impact on the technical and tactical actions of athletes, their role in the training system and ways of practical application. Through this, ways to form an open approach to innovations in the field of sports and develop the athlete's potential on a scientific basis are analyzed.

What is innovation and technology in sports?

Achieving high results in modern sports does not depend only on the athlete's physical potential or talent. Today, approaches based on science, technology and innovations play an important role in successful sports. In this case, the concepts of innovation and technology in sports are of central importance.

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Innovation means enriching existing processes or methods with new approaches, implementing ideas that increase efficiency. In sports, innovation means introducing innovations in all areas, from training methods to analyzing athletes' movements, recovery, nutrition, psychological preparation and even competition management.

Technology is the equipment, programs and systems necessary for the practical application of these innovative ideas. Technology is used in sports in the following forms:

Video analysis programs: allow you to record the technical movements of athletes and analyze them in detail. For example, to identify errors in wrestling, football or athletics.

Biomechanical sensors: serve to determine parameters such as body movement, force, angle, speed.

Smart watches and fitness bracelets: monitor heart rate, calories, running distance and sleep patterns.

Artificial intelligence (AI) and machine learning: are used to individually adjust training loads and predict the risk of injury.

Virtual reality (VR) and digital simulation: are training tools used to improve the mental and tactical readiness of athletes.

The main goal of using innovations and technologies in sports is to increase the efficiency of athlete movements, conduct high-quality preparation for competitions, maintain health, accelerate recovery processes and constantly improve sports results. For example, with the help of modern technologies, coaches can monitor the athlete's condition in real time and give him immediate recommendations. This, in turn, ensures accuracy, safety and an individual approach to training.

Many sports federations and professional clubs around the world are using innovative technologies in their activities. For example, in English football clubs, players' running speed, heart rate, and breathing rate are digitally analyzed even during training. In sports such as wrestling, boxing, and judo, 3D motion analysis systems are used to model and analyze technical movements with high accuracy. In short, the introduction of innovation and technology in sports is not just the use of techniques or equipment, but also the scientific renewal of the entire training and competition system, increasing efficiency and comprehensive development of the athlete. This process determines the future of sports and expands the possibilities for each athlete to achieve individual achievements.

The use of technology in wrestling

Kurash is a national Uzbek sport, in which the athlete's technique, tactics, agility, balance and strength qualities play an important role. In recent years, significant progress has been made in wrestling through the introduction of technology in improving the preparation of athletes, identifying mistakes, individualizing training and conducting competitions fairly.

First of all, video analysis technologies are widely used in wrestling. During training or competition, the athlete's movements are recorded by cameras, and then coaches analyze these movements. This allows the athlete to see his technical mistakes, see how he approached his opponent, what methods he used correctly or incorrectly, and improve himself. In particular, the repeated demonstration and slow-motion analysis of technical movements allow the athlete to work on himself.

In addition, motion sensors (such as accelerometers and gyroscopes) help measure an athlete's body position, angle, speed of movement, and balance. These tools make it possible to determine in which positions an athlete uses the most effective techniques or where he loses balance during training. Based on the information obtained, coaches revise the training program and identify the athlete's strengths and weaknesses.

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Artificial intelligence and analytical programs can also be used to deeply analyze the technical and tactical state of athletes. The program analyzes data from previous competitions and shows which techniques were most successful for the athlete, or analyzes the tactics of opponents and recommends countermeasures. This significantly increases the wrestler's competitiveness.

Electronic evaluation systems can be used during competitions. Although wrestling usually relies on the experience of judges, in some cases video surveillance and automatic evaluation systems help ensure a fair result. Especially in the final stages or international tournaments, high-definition cameras and modern technical means increase the transparency of decisions.

Virtual training environments and VR technologies also help wrestlers conduct simulation training against opponents, increase mental preparation, and overcome fear or nervousness. These technologies are especially useful in reducing stress and increasing confidence before competitions.

In short, the introduction of technologies in wrestling is not only about working with technical means, but also about conducting the entire training process based on a modern, precise, analytical and individual approach. This not only increases the results of athletes, but also serves the development of our national sport on an international scale.

Conclusion

The use of technology in wrestling is an effective means of revealing the individual potential of athletes, taking technical and tactical training to a new level, and improving the training process on a scientific basis. In a situation where competition in the modern sports world is increasing day by day, training wrestlers only through traditional methods is no longer enough. Therefore, the implementation of advanced technologies in practice is becoming an urgent issue.

With the help of video analysis technologies, athletes' movements are deeply analyzed, technical errors are identified, and personal corrections are made. This increases the athlete's ability to analyze and understand himself. Sensors that measure movement allow coaches to accurately monitor the physical and biomechanical indicators of each athlete. Training based on these technologies becomes more individual and effective.

Through artificial intelligence-based analysis, technical and tactical modeling, and statistical forecasting, wrestlers' competitiveness increases, and the most optimal training path is selected for each athlete. At the same time, electronic evaluation systems serve to make fair and transparent decisions in competitions.

Based on the above, it can be said that the use of technology in wrestling not only improves sports results, but also raises the training process to a new level, expands the athlete's opportunities for self-development, and serves as an important step towards promoting our national sport at the international level.

In the future, it is possible to bring wrestling to a higher level by using these technologies on a wider scale, introducing them in educational institutions, and training coaches in innovative approaches**.**

References:

1.	Husniddin, I. (2025). YENGIL ATLETIKANING METODOLOGIYASI. *PEDAGOGIK TADQIQOTLAR JURNALI*, *3*(1), 755-759.

2. Husniddin, I. (2025). MUSOBAQA DAVRIDA YENGIL ATLETIKACHILARNING PSIXOLOGIK TAYYORGARLIGINI YAXSHILASH. *PEDAGOGIK TADQIQOTLAR JURNALI*, *3*(1), 740-744.

3. Husniddin, I. (2025). QISQA MASOFALARGA YUGURISHNING TAHLILI VA NATIJALARI. *PEDAGOGIK TADQIQOTLAR JURNALI*, *3*(1), 745-749.

4. Husniddin, I. (2025). YENGIL ATLETIKA BOYICHA MUSOBAQALARNI TASHKIL ETISH VA OTKAZISH. *PEDAGOGIK TADQIQOTLAR JURNALI*, *3*(1), 768-772.

5. Husniddin, I. (2024). YENGIL ATLETIKA BOYICHA MUSOBAQALARNI TASHKIL ETISH VA OTKAZISH. *Международный журнал научных исследователей*, *9*(1), 170-173.

6. Husniddin, I. (2025). O'ZBEKISTONDA SPORTNI RIVOJLANTIRISH. *PEDAGOGIK TADQIQOTLAR JURNALI*, *3*(1), 750-754.

7. Ismoilov, H. (2024). YENGIL ATLETIKA FANIGA KIRISH VA YENGIL ATLETIKANING RIVOJLANISH TARIXI. *Medicine, pedagogy and technology: theory and practice*, *2*(9), 725-737.

8. Husniddin, I. (2025). SPORTNING IJTIMOIY HARAKATCHANLIKDAGI ROLI. *ИКРО журнал*, *14*(02), 1096-1101.

9. Husniddin, I. (2025). ULOQTIRISH TEXNIKASI ASOSLARI. *ИКРО журнал*, *14*(02), 1102-1110.

10. Husniddin, I. (2025). MAKTAB OQUVCHILARINI UZUNLIKKA SAKRASH TEXNIKASINI TAKOMILLASHTIRISH, FUNKTSONAL VA MASHG'ULOTLARINING NAZARIY ASOSLARI. *ИКРО журнал*, *14*(02), 1046-1051.

11. Husniddin, I. (2025). ANALYSIS OF TECHNIQUE OF RUNNERS IN OBSTACLES. *ИКРО журнал*, *14*(02), 1041-1045.

12. Husniddin, I. (2025). SPORTCHA YURISH VA YUGURISH TEXNIKASI ASOSLARI. *ИКРО журнал*, *14*(02), 1052-1057.