

The Scientific and Theoretical Foundations for Improving the Technical Actions of Wrestlers Based on Innovative Technologies

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Abstract: *This article discusses the scientific and theoretical foundations of improving the technical movements of wrestlers based on innovative technologies. The scientific and theoretical foundations for improving the technical actions of wrestlers using innovative technologies involve a multidisciplinary approach. This combines principles from biomechanics, sports physiology, psychology, and data-driven technologies to optimize performance. Improving the technical actions of wrestlers through innovative technologies involves applying scientific principles and theoretical frameworks to optimize their training, performance, and tactical decision-making.*

Keywords: *technical movement, innovative technology, video analysis, sensors, biomechanics and virtual reality (VR) technologies.*

Introduction. There are various types of wrestling in the world, including Greco-Roman wrestling, freestyle wrestling, judo, and similar sports, for which numerous international competitions are held, including the Olympic Games, World Championships, and other major sporting events. Competition among these sports is becoming increasingly intense, necessitating new approaches in terms of technique and tactics. The implementation of innovative technologies and their effective use play a crucial role in helping wrestlers achieve high results.

Martial arts, which are connected with the culture and history of many nations in the world, are developing and are considered an important tool for improving the technical movements of wrestlers, using new technologies to further improve their physical and mental preparation.

Wrestling in Uzbekistan has a rich history as a national sport. The fact that great attention has been paid to wrestling in recent years indicates the intensification of competition in international competitions and the growth of athletes' skills. By improving the technical movements of wrestlers, athletes' opportunities for achieving high results increase. The introduction of innovative technologies into the training process of wrestlers creates new opportunities for effectively improving their physical, mental and technical preparation. Taking into account the development of wrestling, the successful results of athletes and international competition, the need to use innovative technologies is increasingly increasing. The issue of introducing innovative technologies in physical education classes, sports training and training of athletes is reflected in the scientific research and educational and methodological works of S.A. Litvinov, V.K. Balseyevich, I.G. Gerashenko, Yu.A. Zubayev, A.I. Shadmardin, D.A. Radkin, M.A. Kolpakova, A.A. Popova and others.

Research and methods.

Improving the technical movements of wrestlers is an important factor that directly affects the results of athletes. The importance and effectiveness of modern technologies in the training and evaluation of athletes can be seen in the scientific and methodological works of F.A. Kerimov, Q.P. Arslonov, N. Tastanov, B. Rasulov, U.A. Alimov.

In recent years, innovative technologies, including video analysis, sensors, biomechanics, and virtual reality (VR) technologies, have been widely used in the effective organization of the training process of athletes. This analysis is of great importance in improving the technical movements of wrestlers using innovative technologies. For example, Bunker, Conroy (2017) studied the development of wrestlers' technical skills using video, explaining how to use video analysis to change techniques and tactical skills in the training of physical athletes.

Video analysis programs such as Dartfish and Kinovea are widely used in the training process of athletes. These programs create effective tools for analyzing wrestlers' movements from different angles and improving their technique. Video analysis technologies have been shown to be effective in improving technical and tactical movements (Bunker & Conroy, 2017; Hrysomallis, 2011).

Results.

Today, there are several areas of application of innovative technologies in improving the technical movements of wrestlers.

Video analysis; - using innovative video analysis technologies, wrestlers can analyze their own movements and the movements of their opponents. Using special programs, athletes can review their movements in video format and identify their strengths and weaknesses. This technology helps athletes improve their technique and allows them to quickly correct their mistakes.

Discussion.

Simulation and virtual training; - there is an opportunity to use simulators and virtual reality (VR) technologies to study and practice the technical movements of wrestlers. These technologies help wrestlers learn new techniques safely and effectively, and also simulate battles with opponents and show how to act in certain situations.

Motion analysis through sensors; - motion analysis technology allows wrestlers to measure their movements. For example, using special clothing or special devices, the distribution of force in the athlete's muscles, speed of movement, balance and other physiological parameters are measured. With this information, wrestlers can receive the necessary recommendations to further improve their technical movements.

Biomechanics for training;- using biomechanics technologies, wrestlers' movements can be analyzed more accurately and thoroughly. With the help of these technologies, the athlete's body position, muscle strength and efficiency of movements are studied. This helps wrestlers to perform accurate and safe movements.

Conclusion. Innovative technologies are an important tool in improving the technical movements of wrestlers. Through video analysis, simulations, sensors and biomechanical technologies, athletes can improve their skills and conduct effective training. All this helps to update and develop the technical skills of wrestlers. At the same time, pedagogical approaches and individual training also play an important role. The use of innovative technologies in wrestling greatly helps athletes to increase their competitiveness and, as a result, further improve the quality and level of wrestling.

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