

Main Stages of Applying Innovative Technologies in Sports Activities

Yo'ldashev Alisher Axrorovich

Bukhara State University, Lecturer at the Department of Sports Activities

Abstract. *This article analyzes the key components of implementing the latest digital innovations in sports activities. The focus is on utilizing these advanced technologies to enhance athletic performance, explore new sports techniques, and address the challenges faced in team sports. The study also examines large-scale digitization in sports, the integration of artificial intelligence, and the application of best practices from leading countries in this field. Additionally, the article highlights the disparities between team sports and individual sports, such as martial arts, and explores strategies to enhance team sports through technological advancements.*

Key words: *Sport, Physical Education, Component, Activity, Pedagogical Technologies, Digitization, Technology, Innovation.*

Introduction

Achieving excellence in physical education and professional sports requires a serious approach, significant effort, and substantial financial investment. In Uzbekistan, special attention is being given to sports and physical education aimed at achieving high results. The experience of many countries has shown that government support for national sports and physical education plays a crucial role in their development.

Efforts are being made to create a conducive environment for young athletes, ensuring both their physical and mental well-being. Uzbekistan has positioned itself as a nation that highly values the development of sports, continuously investing in this sector. Government agencies, public organizations, and sports institutions work collaboratively to improve sports infrastructure, promote mass participation, and strengthen professional sports.

Sports serve as one of the most effective tools for fostering a healthy socio-political environment, especially among the youth. Today, in Uzbekistan, sports have become an integral part of education and personal development. As a young nation, where over 40% of the population is under the age of 18, Uzbekistan prioritizes youth development, ensuring their comprehensive growth both physically and mentally. Consequently, promoting children's sports and encouraging a healthy lifestyle among young people remains a key focus of national policy. Since 2002, the Children's Sports Development Fund has been actively supporting various initiatives aimed at fostering youth participation in sports.

Central Asia has a rich history of physical education and sports, inherited from its ancestors. Among the invaluable legacies of this region, physical culture holds a special place. It has traditionally played a vital role in raising healthy individuals, enhancing physical and cultural development, and promoting an active lifestyle.

Materials.

Historically, Central Asian societies developed physical skills through various activities such as hunting, horseback riding, archery, wrestling, and endurance-based exercises. Traditional practices included mounted archery, spear throwing, running, and navigating obstacles, all of which

contributed to the physical training of individuals. These skills were not only essential for survival but also became an integral part of national traditions, festivities, and celebrations.

Martial skills such as wrestling, equestrian sports, swordsmanship, and acrobatics were widely practiced and held deep cultural significance. These activities fostered strength, patriotism, and resilience among the youth, preparing them for various professions and military service.

Physical education in Central Asia has always been characterized by traditional elements. Although it initially developed through empirical means, without scientific foundations, it remained deeply rooted in national customs. Over time, specific methods and techniques of physical training were refined, particularly in wrestling and horseback riding, which became organized sports. Competitions were traditionally held during national festivals and celebrations.

Furthermore, military physical training was systematically conducted using indigenous methods, incorporating centuries-old knowledge to prepare soldiers for national defense. These traditional approaches to physical education played a significant role in shaping the resilience and combat readiness of Central Asian warriors.

By integrating modern innovations with this rich historical foundation, Uzbekistan aims to further develop its sports sector, ensuring its athletes remain competitive on the global stage.

Research and methods.

Since gaining independence, Uzbek athletes have actively participated in numerous prestigious international sports competitions. In 1995, Tashkent hosted the First Central Asian Games under the leadership of the International Olympic Committee (IOC). The Second Central Asian Games were held in Almaty, Kazakhstan, in 1997.

Uzbek athletes also made their debut in the Winter Olympic Games in Lillehammer in 1994. Since then, they have taken part in various international competitions, including:

- ✓ 1996 Summer Olympics in Atlanta
- ✓ 1998 Winter Olympics in Nagano
- ✓ 1994 Asian Games in Hiroshima (12th edition)
- ✓ 1996 Winter Asian Games in Harbin (3rd edition)
- ✓ 1998 Asian Games in Bangkok (13th edition)
- ✓ 1999 Winter Asian Games in Gangwon (4th edition)
- ✓ 1998 World Youth Games in Moscow

These events marked the beginning of Uzbekistan's commitment to achieving high results in international sports.

The expansion of international sports and the Olympic movement, the organization of various continental games, world championships, and the traditional hosting of the Olympic Games have significantly contributed to the development of sports in every country.

As an independent nation, Uzbekistan has actively integrated into the global sports community by establishing its National Olympic Committee (NOC). This was achieved during its first founding meeting on January 21, 1992. Based on the IOC Charter and global best practices in sports, Uzbekistan developed and adopted the NOC Statutes, which have since guided the country's efforts in promoting elite sports and physical education.

Over the years, special roadmaps for the development of high-performance sports and physical education have been established in Uzbekistan.

From the early years of independence, Uzbekistan placed significant emphasis on the development of sports and Olympic disciplines. The adoption of the "Law on Physical Education and Sports" by the national parliament demonstrates the government's commitment to this field.

In New Uzbekistan, under the leadership of President Shavkat Mirziyoyev, there has been an increased focus on:

- ✓ The development of sports and promotion of physical fitness among the population.
- ✓ The integration of cutting-edge technologies into the sports sector.
- ✓ The improvement of underperforming sports by adopting innovative training methods.
- ✓ Methodology: The Role of Digital Technologies in Sports Education.

Modern education in sports institutions increasingly relies on information technologies, including mobile devices, computers, and tablets. The integration of digital tools has led to the development of new teaching methods, complementing traditional approaches with technology-driven training solutions.

The importance of digital technologies in the training of future physical education teachers and sports coaches is growing daily. The study of advanced sports practices from developed countries reveals the widespread integration of digital technologies in various aspects of sports training and performance analysis.

Results.

In Uzbekistan, the government's attention to digitalization in sports has become a key driver of progress. Particularly in combat sports, digital innovations have been actively applied since the 2012 London Olympics, where Uzbekistan's results were considered unsatisfactory.

Following the 2012 London Olympics, Uzbekistan began integrating digital technologies into Olympic combat sports on a large scale. For the 2016 Rio Olympics, significant technological advancements were introduced in boxing, with a step-by-step approach to studying and improving performance.

The shortcomings of the 2012 Olympics were analyzed.

Advanced sports technologies from developed countries were integrated into boxing training.

Individualized training programs were developed using digital performance analysis to enhance athletes' physical capabilities.

From 2013 onward, Uzbekistan's State University of Physical Education and Sports collaborated with the Boxing Federation and leading national scientists to conduct in-depth research on boxing training. Under the leadership of Professor R.D. Kholmukhamedov, each training session for boxers was closely monitored and analyzed.

Using digital tools, key aspects such as:

- Punch strength
- Endurance levels
- Athlete performance tracking
- were systematically recorded and optimized.

Between 2013 and 2015, research and the application of digital technologies in boxing training led to continuous improvements in performance.

In the 2015 World Championships, Uzbekistan's sports scientists and coaches collaborated, leading to a historic achievement—winning six medals in different categories.

This success was further extended in the 2016 Rio Olympics, where Uzbekistan:

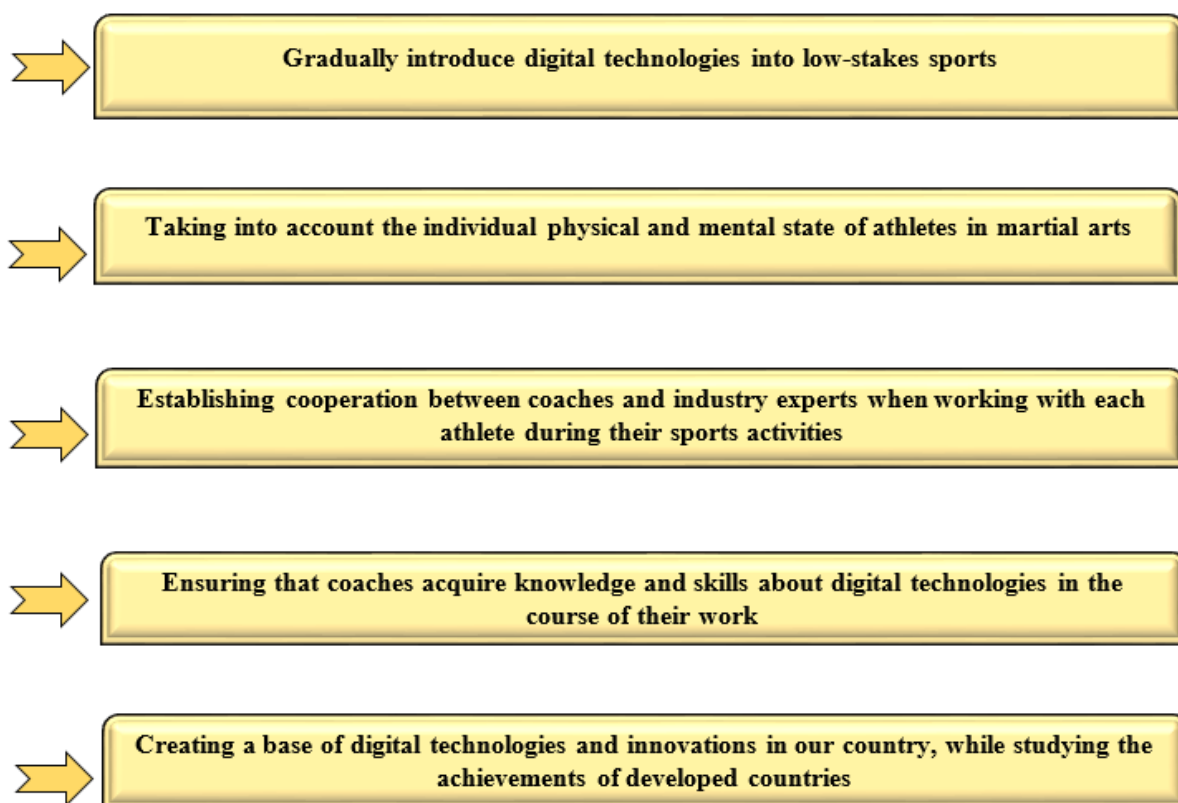
Won three gold medals, one silver, and two bronze medals

Achieved a historic first-place ranking in boxing

These achievements highlight the crucial role of digital technologies in modern sports. The application of data-driven training methods has significantly enhanced Uzbekistan's competitive standing in international sports.

Considering these advancements, our research focuses on developing core components for the effective integration of digital technologies into sports training. This approach ensures that Uzbekistan continues to excel on the global stage and remains at the forefront of sports innovation and technological advancement.

I-Scheme



Taking these components into account, integrating digitalization into sports must primarily be implemented with the support of coaches and specialists. It is crucial to prioritize the development of underperforming sports disciplines, focusing not only on combat sports but also on team sports, which require further advancement.

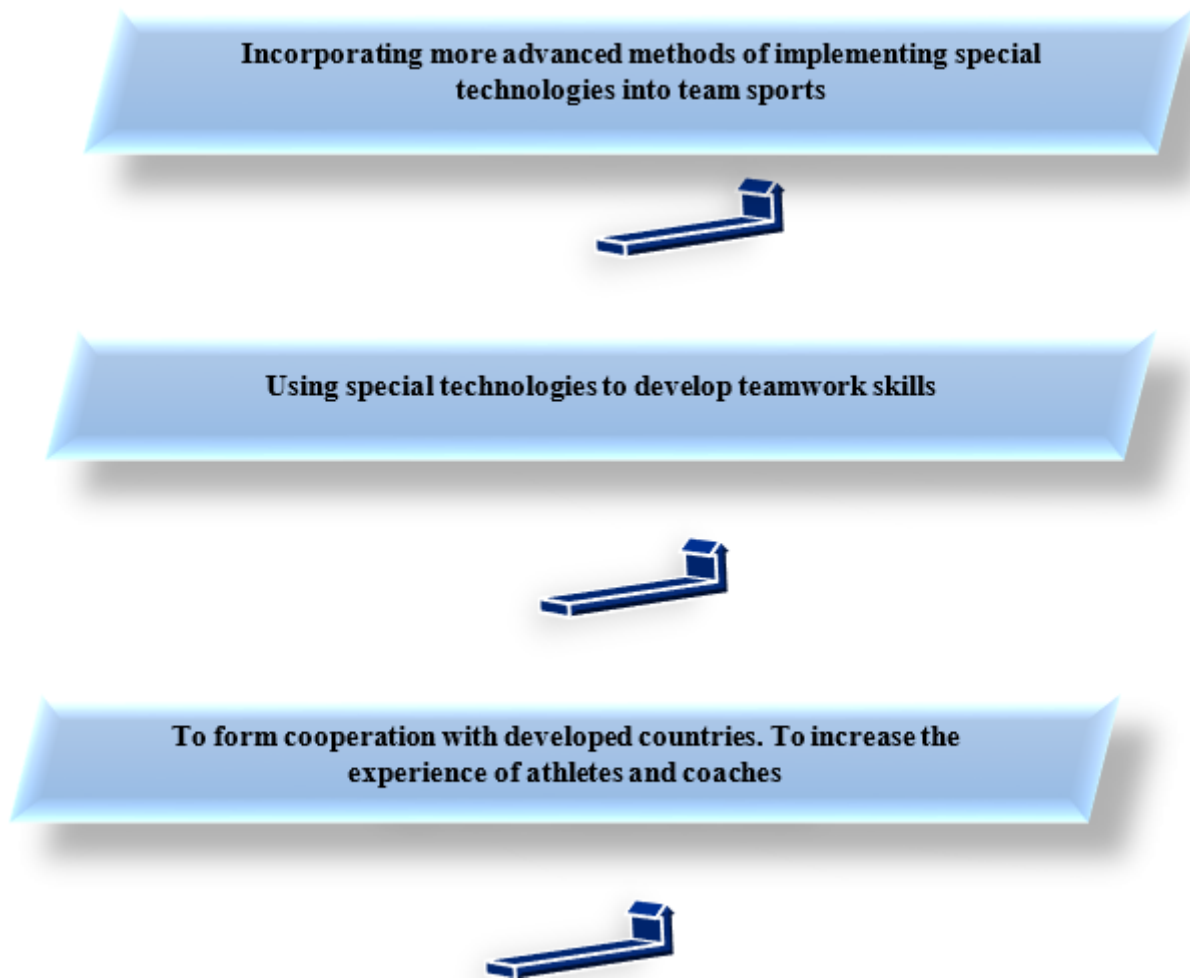
Discussion.

Our research findings indicate that, in our current environment, individual sports (combat disciplines) have significantly outperformed team sports in terms of results. This trend is evident when analyzing the last decade's performance in Asian and World Championships, as well as the Olympic Games.

To address these disparities, we have examined the key shortcomings in team sports and explored more advanced methods for integrating specialized technologies. We believe that applying digital innovations and data-driven methodologies to team sports will help enhance their performance and bring them closer to the success achieved in individual sports.

Considering these challenges, we have developed the next stages of digitalization and technological integration specifically tailored for team sports. These improvements aim to modernize training processes, optimize performance, and ensure a more strategic approach to sports development in Uzbekistan.

(Scheme II)



Application of Digital Technologies in Sports Activities: Challenges and Insights

In this research, we aimed to explore the primary challenges of integrating **digital technologies into sports activities**, examining the **significance of digitalization** in this context. Recognizing that athletes are the **primary subjects** of this research is essential when applying digital technologies.

Engaging athletes in these innovations, with the **support of coaches**, increasing their interest in new methods, studying the **educational technologies** of developed countries, and continuously leveraging the expertise of digital technology specialists are crucial components for progress in this field.

Ensuring **collaboration between coaches and athletes** with counterparts from developed countries, facilitating **training opportunities at leading sports centers in Europe**, and fostering a **culture of continuous improvement** through educational technologies are vital for advancing the skills of our athletes and enhancing coaching effectiveness.

Conclusion

Analyzing the **history of digital technology integration in sports**, we observe that the success of the most advanced countries is rooted in managing every sector through **innovative technologies**.

An examination of the **2012, 2016, and 2020 Olympic Games** results reveals that **individual sports** (combat disciplines) have dominated in terms of **medal achievements**. However, it is noteworthy that while **team sports** have not yielded satisfactory results, the attention given to them is comparable to that of individual sports.

As a conclusion, we assert that the **extensive application of digital technologies** in team sports can lead to **gradual improvements in outcomes**. In the United States, a leading nation in global sports, the development of team sports has involved **comprehensive digitalization and the adoption of innovative technologies**, with continuous evaluation and enhancement of strategies.

Today's sports activities are **inconceivable without innovative technologies and digitalization**. Not only in individual sports but also in team sports, the **wide-scale implementation of artificial intelligence and robotics**—as seen in various team sports in China—demonstrates the transformative power of these technologies.

Considering these advancements, the **gradual application of cutting-edge technological innovations** in team sports within our country can yield **positive results over time**. This process is evolving extensively in the **sports centers of developed nations**, setting new standards for excellence.

In conclusion, integrating **digitalization and innovative technologies** into sports, particularly team sports, is undeniably one of the **most critical demands of our era**.

References

1. Mirziyoyev Sh.M. O'zbekiston Respublikasining Prezidenti Shavkat Mirziyoyevning Oliy Majlisga Murojaatnomasi. – T. “O'zbekiston” NMIU, 2018. – B.19-20.
2. Салихов Т. и др. Psychological Characteristics Of Increasing Cognitive Activity In Elementary School Students //ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz). – 2021. – Т. 7. – №. 7.
3. Salixov S. M., Salixov T. M. Bo'lajak jismoniy madaniyat o'qituvchisining kasbiy tayyorgarligini shakllantirish //Science and Education. – 2022. – Т. 3. – №. 3. – С. 1013-1019.4.
4. Salixov S. M. et al. Musobaqa oldi sportdagi stress va tayyorgarlikning psixologik tomonlari //Science and Education. – 2022. – Т. 3. – №. 4. – С. 1039-1044.
5. Mansurovich S. S. Methodology of organizing physical education lessons through digital technologies //European Journal of Modern Medicine and Practice. – 2022. – Т. 2. – №. 4. – С. 107-111.
6. Sobirovich, T. B. (2023). Basic Criteria for Building the Third Renaissance in Uzbekistan. Asian Journal of Applied Science and Technology (AJAST), 7(1), 149-157.
7. Sobirovich, T. B. (2021). National Principles of Democracy in Uzbekistan. Mediterranean Journal of Basic and Applied Sciences (MJBAS), 5(3), 131-135.