Use of information technology in the field of sports games during training

Turaeva N.M.[1], Ibragimova S.B.[1], Olhovskaya I.V.[1], Filenko L.V.[2]
[1]Uzbek State University of Physical Culture and Sport
[2]*Kharkiv State Academy of Physical Culture*

*Abstract. The use of the potential of computer technology training in sports games and physical education, as a factor in the formation of a healthy way of training athletes, is an urgent problem in modern sports science. Modern information and communication technologies allow to organize independent educational activities using didactic methods. The **purpose** of this work is to study the use of information technologies in the field of physical culture and sports, especially in the field of sports games. **The main objective** of the study is analyze the possibilities of development and application of computer training technologies in sports games; to substantiate the effectiveness of the use of computer training systems in the formation of a healthy way of training athletes in sports games. **Results.** Currently in sports training there is a small sample of computer training programs aimed at technical and tactical training in various sports, but the factor of health orientation in them is not due, which led to further research. As part of the study, computer training programs were developed and experimentally implemented in the training process of athletes in sports games: "Video-information program for training team technical and tactical actions in basketball" and "Technique of table tennis". These programs were developed using the application packages Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11. **Conclusions**. Theoretical analysis of literature sources and existing developments showed that currently in sports training there is a small sample of computer training technologies aimed at technical and tactical training in various sports and the formation of a healthy way of training in athletes in sports games, which led to further research. As part of the study, computer training programs in basketball and table tennis were developed and experimentally implemented in the training process of athletes in sports games using Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11 application packages. in the educational and training process of the proposed developments indicates the effectiveness of the use of computer training technologies in the formation of a healthy way of training athletes in sports games.*

Key words: information technology; sports games; training, athletes.

Introduction. The Internet has become an integral part of modern society. Information technologies, constantly being updated, are actively involved in the sphere of education: electronic educational resources are being developed, in including in the field of additional education, new interactive forms of education, distance learning. In this way, education is becoming more accessible (Covell, et al., 2017).

The use of the potential of computer learning technologies in sports games and physical education, as a factor in shaping a healthy way of training athletes, is being studied by well-known scientists from around the world (Eskofier, et al., 2019; Zhao, 2018).

The current level of formation of a healthy approach to the training process requires new methods and approaches in the training of athletes in sports games. This direction is becoming more and more promising due to the rapid development of information and computer technologies and their direct impact on the system of sports training and health of athletes. Information technologies, developing rapidly, open new opportunities for coaches every year.

According Ogun, A., Zoputan, I., Utibe, J., and Chukwudimma (Ogun, et al., 2019), modernization, the latest techniques in the training process, the use of computer programs, educational videos that form visual images of the performance of equipment in athletes are necessary to further improve the training process, increase its effectiveness and

form a healthy way of training. According to research Ashanin, V., Filenko, L., Tserkovnaya, O., Ilidjev, O. (Ашанін, et al., 2013), the use of computer training technologies stimulates the athlete to health classes in the fresh air or in the hall for the real consolidation of the revised virtual images of technical and tactical elements.

Modern graphic and video editors allow you to create training systems that transmit techniques and tactics of sports in slow motion, allow you to divide the equipment into elements, track the interaction of individual parts of the body when performing techniques, as well as draw conclusions about the feasibility of using techniques in a tactical situation. Such programs are designed to form in athletes the figurative imagination of technical elements, in the continuation of which can be used autotraining. Computer training systems provide an opportunity to view the elements of technology at the most opportune moment, while not all technical elements can be clearly demonstrated by the coach (Філенко2017).

Modern information and communication technologies allow to organize independent educational activities using didactic methods. Audiovisual technologies include a set of classical methods (Mahmood, & Mann, 2018): verbal, visual and practical. They are easily implemented in the classroom form of learning, have a high degree of clarity, demonstrate dynamic processes. But, despite the fact that currently the need for the use of audiovisual information technology in the educational and training process in sports games is high enough, computer training systems aimed at forming a healthy way of training are not available to coaches.

The purpose of this work is to study the use of information technologies in the field of physical culture and sports, especially in the field of sports games.

The main objective of the study is analyze the possibilities of development and application of computer training technologies in basketball and table tennis; to substantiate the effectiveness of the use of computer training systems in the formation of a healthy way of training athletes in sports games.

Connection of research with scientific programs, plans, topics. The presented research was performed within the scientific theme «Scientific and methodological bases of using information technologies in the formation of professional competence of specialists in physical culture and sports» (state registration number in Ukraine: 0119U103207).

Results. Analysis of literature sources (Watson, et al., 2017; Філенко, & Несен, 2018) shows that information learning technologies are used in the field of physical culture and sports, but are used mainly systems and software for general purposes: computers, office equipment, system software, application packages mathematical operation.

Some authors note that in our time in the field of physical culture and sports are insufficiently used software tools for computerization of educational and training activities of students, which would be aimed at the formation of health activities of athletes in sports games (Sansanwal, 2019).

However, in recent years there have been a significant number of publications on computer programs developed for the field of physical culture and sports (Xu, 2018). The authors describe the general principles of computer training program development, such as conceptualization and identification, formalization. The analysis of existing developments showed that currently in sports training there is a small sample of computer training programs aimed at technical and tactical training in various sports, but the factor of health orientation in them is not due, which led to further research.

Specialized software is designed for the process of administering the activities of the organization of physical culture and sports. These are the automated systems management complex programs for managing various processes in the organization. Consider software products that it is possible to use it in the physical culture and sports (Turaeva, & Kamardinova, 2021).

Electronic system "UNIVERSE-Fitness" CRM system software management of the UNIVERSE-Fitness fitness club of the Universe-soft company. This is a

comprehensive automation designed to automate fitness and wellness clubs, swimming pools, sports complexes, trampoline centers, martial arts clubs, yoga and dance studios. Thanks to the implementation of a CRM management system for a fitness club, it becomes possible to solve a wide range of tasks related to both the current work of the sports complex and the analysis of activities and long-term planning (Fig. 1).
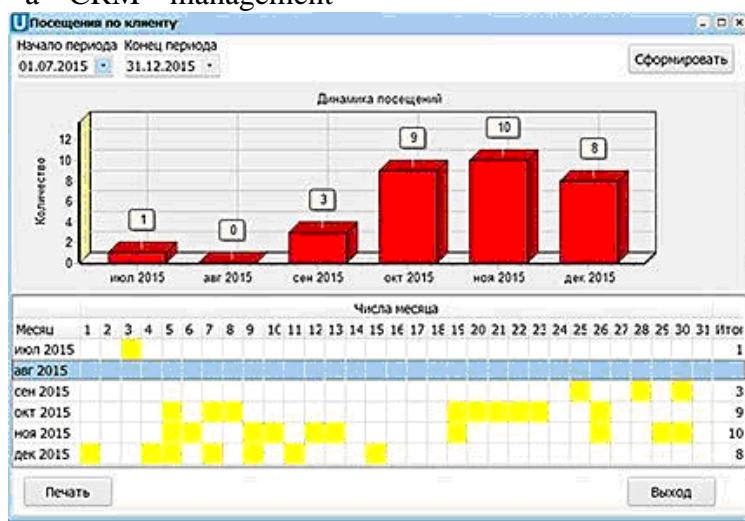
Figure 1. The interface of the program "UNIVERSE-Fitness".

The main features of the program:
• automation of the club reception: registration of visits customers, checking the activity of cards, selling goods and services;
• conducting financial settlements, organizing cashless settlements inside the fitness club;
• implementation of a CRM system for the sales department: call accounting, printing contracts, sale of contracts, registration of tasks;
• form for the work of the coaching staff - recording and writing off personal training, reporting;
• improve advertising methods based on individual SMS and email distribution;
• optimize accounting and control of expenses and income, including warehouse monitoring of consumables and drugs;
• to improve personnel work - to compose optimal workers schedules, monitor the economic efficiency of employees, calculate wages;
• to form a single automated complex based on integrated into the control and accounting management program equipment;
• create a multilevel security system based on systems access control and management (ACS).
SMARTABASE software. SMARTABASE software is a product of INNOSPORT, whose main task is to provide the Russian sports market with innovative technological equipment, without which it is impossible to imagine modern professional sports. SMARTABASE is a product of the FUSION SPORT company and is an easy-to-use system that allows you to combine all the technologies previously installed in a sports organization and the collected data, which in the future will allow you to compose full-fledged reports, as well as track information on athletes.

SMARTABASE can be used in the following areas:
• in sports science;
• in training and performance analysis;
• in medical research;
• in planning and periodizing events;
• in the process of rehabilitation, etc.

SMARTABASE is integrated with any databases, MS Excel and others, including the Fusion SMART SPEED system. The system offers many options, which are designed for different budgets and needs of the sports organization. The advantage of SMARTABASE software is that that it can be used with mobile internet, making it accessible to you and your athletes anywhere in the world. Online access via any browser or any device including PC, Mac, iPhone / iPad,

BlackBerry PlayBook and Android devices (Fig. 2).

Figure 2. Possibilities of using various devices for login and work in the SMARTABASE system.

In addition to software products for solving organizational and managerial tasks in the field of sports, INNOSPORT offers innovative technological sports equipment:
• Xsens MVN Analyze - a system for measuring indicators of the human body;
• Catapult - tracking system, monitoring tool the effectiveness of training athletes;
• SwimPro underwater / surface photography cameras;
• SMARTSPEED is a training, testing and development system;
• SpiroTiger - respiratory trainer for athletes;
• Dartfish - software for thorough video analysis;
• Activio Sport - a system for measuring the heart rate reductions.

As part of the study, computer training programs were developed and experimentally implemented in the training process of athletes in sports games: "Video-information program for training team technical and tactical actions in basketball" and "Technique of table tennis". These programs were developed using the application packages Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11 (Помещикова, & Філенко, 2019).

Our program "Video-information program for training team technical and tactical actions in basketball" uses dynamic screensavers that indicate the subject of training and accompanied by rhythmic music, represent the placement of players on the court, which is considered one of the most versatile and allows attacks, both on the right and on the left flank, both against the personal and against the zone defense system. For greater clarity, this version of the location of players is duplicated schematically, and accompanied by a voice explanation. Exercises are also offered in the computer training system, where a schematic representation is given at the beginning of each, and then in a video recording, during which the actions of the players in the exercise are explained.

The computer training system "Technique of table tennis" is not only training instructions and recommendations, but also focuses on explaining the correctness of the implementation of a technique in view of its further reproduction in real health conditions. Perception and understanding of the end result after the technique is a guarantee of more correct and faster assimilation of the material. This aspect played a crucial role in the creation of the educational video film "Technique of table tennis".

All study material is divided into six lessons. Each lesson is a study of a certain technique of playing table tennis. The techniques discussed in the computer training program are fundamental. After watching each lesson, there is an automatic return to the video menu. Thus, the athlete can independently choose the order of viewing the training of technical elements and their actual reproduction.

Each lesson begins with a preliminary video fragment of the technique, audio track,

which includes the definition of reception as a technical element, determining the conditions of a healthy way to use it and its features. This tool causes the athlete to correctly perceive the elements of technology, which is necessary for further correct perception of the material and avoid errors in the actual reproduction of the material. After reviewing the technique, a demonstration of individual elements of the game technique begins in order to disassemble them into smaller components. This uses such video techniques as reducing the speed of video demonstration, stopping the video track on the most complex parts of technology.

The technique of superimposing auxiliary lines and arrows on the photo was also used in order to focus attention on certain parts of the technique and certain parts of the body during the technique. The final stage of the video is a complete demonstration of the technical element with commentary and recommendations on possible mistakes, disadvantages and advantages of using the element in a given situation and the feasibility of using the technique.

Thus, information technology in the modern world play an important role, especially in the field of physical culture and sports, where from the quality of the information used depends not only on the result, but also on the health of the athlete.

Conclusions. Theoretical analysis of literature sources and existing developments showed that currently in sports training there is a small sample of computer training technologies aimed at technical and tactical training in various sports and the formation of a healthy way of training in athletes in sports games, which led to further research.

As part of the study, computer training programs in basketball and table tennis were developed and experimentally implemented in the training process of athletes in sports games using Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11 application packages. in the educational and training process of the proposed developments indicates the effectiveness of the use of computer training technologies in the formation of a healthy way of training athletes in sports games..

Prospects for further research. The study does not cover all aspects of the problem of forming a healthy way of training athletes, but only reveals one of its modern components and aims to continue the development and implementation of computer training technologies of a health nature in other sports.

Conflict of interest. The authors note that there is no conflict of interest

References
Covell, D., Walker, S., Siciliano, J., Hess, P.W. (2017). Chapter 3-Information technology management and the sports media. *Managing Sports Organizations*, 2, 82-115.
Eskofier, B., Oleson, M., DiBenedetto, C., Hornegger, J. (2019). Embedded surface classification in digital sports. *Pattern Recognition Letters* 30(16), 1448-1456.
Mahmood, M.A., Mann, G.J. (2018). Impact of information technology investment: Anmpirical assessment. Accounting. *Management and Information Technologies*, 3(1), 23-32.
Nesen, O., Pomeshchikova, I., Druz, V., Pasko, V., Chervona, S. (2018). Changes of technical preparedness of 13-14-year-old handball players to develop high-speed and power abilities. *Journal of Physical Education and Sport*, 18(2), pp. 878-884. DOI:10.7752/jpes.2018.02130
Ogun, A., Zoputan, I., Utibe, J., and Chukwudimma, O. (2019). Impacts of Information and Communication Technology (ICT) to the prevalence of obesity and elevated blood. 4, 83-116.
Sansanwal, D.N. (2019). Use of ICT in Teaching-Learning and Evaluation. Central Institute of Education Technology, New Delhi NCERT.
Turaeva, N.M., Kamardinova, Sh.B. (2021). Мактабгача ва бошланғич таълимда жисмоний тарбия ва спорт йўналишида ахборот коммуникация технологияларини қўллаш самарадорлиги [The effectiveness of the use of ICT in the direction of physical culture and sports in preschool and primary education], pp.216-220.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=IDIfHrMAAAAJ&citation_for_view=IDIfHrMAAAAJ:2osOgNQ5qMEC

Watson, J.C., Tenenbaum, G., Lidor, R., & Alfermann, D. (2017). ISSP Position Stand on the Use of the Internet in Sport Psychology. *International Journal of Sport Psychology,* 1-19.

Xu, Yan. (2018). The status quo of China's sports information industry and countermeasures [J]. *National Conference Papers Ju sports information.*

Zhao, Li (2018). Sports information technology application and development. *Beijing University of Physical Education*, 2.

Ашанін, В.С., Філенко, Л.В., Церковна, О.В., Іліджев, О.В. (2013). Інформатизація методів наукових досліджень в фізичному вихованні та спорті засобами інтерактивних технологій. *Materialy IX konferencji «Strategiczne pytania swiatowej nauki – 2013»*, V.31, Polska, 39-46.

Помещикова, І.П., Філенко, Л.В. (2019). Вдосконалення тактичної підготовки юних баскетболістів 14-16 років засобами інформаційних технологій. *Спортивні ігри*, №3(13), 41-48. doi: 10.15391/si.2019-3.05

Філенко, Л.В. (2017). Алгоритмічні основи побудови навчально-тренувального процесу студентів-спортсменів із використанням інформаційних технологій. *Вісник Прикарпатського університету. Серія: Фізична культура,* В.27-28, 318-323.

Філенко, Л.В., Несен, О.О. (2018). Інформатизація підготовки студентів-гандболістів засобами мультимедійної комп'ютерної програми «Гандбол». *Спортивні ігри*, №1(7), 54-61.

Анотація. Тураєва Н.М., Ібрагімова С.Б., Ольховська І.В., Філенко Л.В. Використання інформаційних технологій при тренуваннях в області спортивних ігор. Використання потенціалу комп'ютерних технологій навчання у спортивних іграх та фізичному вихованні, як чинника формування здорового способу підготовки спортсменів, є актуальною проблемою в сучасній спортивній науці. Сучасні інформаційно-комунікаційні технології дозволяють організувати самостійну навчальну діяльність з використанням дидактичних методів. Метою даної роботи є вивчення використання інформаційних технологій у сфері фізичної культури та спорту, особливо у сфері спортивних ігор. Основним завданням дослідження є проаналізувати можливості розробки та застосування технологій комп'ютерного навчання в спортивних іграх; обґрунтувати ефективність використання комп'ютерних тренувальних систем при формуванні здорового способу підготовки спортсменів у спортивних іграх. Результати. В даний час у спортивній підготовці існує невелика вибірка комп'ютерних тренувальних програм, спрямованих на техніко-тактичну підготовку з різних видів спорту, але фактор оздоровчої спрямованості в них не обумовлений, що зумовило подальші дослідження. У рамках дослідження розроблено та експериментально впроваджено комп'ютерні навчальні програми в тренувальний процес спортсменів зі спортивних ігор: «Відео-інформаційна програма підготовки командних техніко-тактичних дій з баскетболу» та «Техніка настільного тенісу». Ці програми розроблено з використанням пакетів програм Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11. Висновки. Теоретичний аналіз літературних джерел та наявних розробок показав, що в даний час у спортивній підготовці існує невелика вибірка комп'ютерних тренувальних технологій, спрямованих на техніко-тактичну підготовку з різних видів спорту та формування здорового способу тренування у спортсменів у спортивних іграх, що призвело до подальші дослідження. У рамках дослідження розроблено та експериментально впроваджено комп'ютерні навчальні програми з баскетболу та настільного тенісу в тренувальний процес спортсменів у спортивних іграх з використанням пакетів програм Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11. у

навчально-тренувальному процесі запропоновані розробки свідчить про ефективність використання комп'ютерних тренувальних технологій у формуванні здорового способу підготовки спортсменів до спортивних ігор.

Ключові слова: інформаційні технології; спортивні ігри; тренування, спортсмени.

Аннотация. Тураева Н.М., Ибрагимова С.Б., Ольховская И.В., Филенко Л.В. **Использование** *информационных технологий при тренировках в области спортивных* **игр.** *Использование потенциала компьютерных технологий обучения в спортивных играх и физическом воспитании как фактора формирования здорового способа подготовки спортсменов является актуальной проблемой в современной спортивной наук. Современные информационно-коммуникационные технологии позволяют организовать самостоятельную учебную деятельность с использованием дидактических методов. Целью данной работы является изучение использования информационных технологий в сфере физической культуры и спорта, особенно в сфере спортивных игр. Основной задачей исследования является проанализировать возможности разработки и применения компьютерных технологий обучения спортивным играм; обосновать эффективность использования компьютерных тренировочных систем при формировании здорового образа подготовки спортсменов в спортивных играх. Результаты. В настоящее время в спортивной подготовке имеется небольшая выборка компьютерных тренировочных программ, направленных на технико-тактическую подготовку в различных видах спорта, но фактор оздоровительной направленности в них не обусловлен, что обусловило дальнейшие исследования. В рамках исследования были разработаны и экспериментально внедрены в тренировочный процесс спортсменов по спортивным играм компьютерные обучающие программы: «Видеоинформационная программа для обучения командным технико-тактическим действиям в баскетболе» и «Техника игры в настольный теннис». Эти программы были разработаны с использованием пакетов приложений Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11. Выводы. Теоретический анализ литературных источников и существующих разработок показал, что в настоящее время в спортивной подготовке имеется небольшая выборка компьютерных тренировочных технологий, направленных на технико-тактическую подготовку в различных видах спорта и формирование здорового образа подготовки спортсменов в спортивных играх, что привело к дальнейшие исследования. В рамках исследования были разработаны и экспериментально внедрены в тренировочный процесс спортсменов по спортивным играм компьютерные программы обучения баскетболу и настольному теннису с использованием пакетов приложений Turbo Pascal, Delphi 6, Adobe Primer, PhotoShop, Power Point, Pinnacle 11. в учебно-тренировочном процессе предлагаемых разработок свидетельствует об эффективности использования компьютерных технологий обучения при формировании здорового образа подготовки спортсменов в спортивных играх.*

Ключевые слова: *информационные технологии; спортивные игры; тренировки, спортсмены.*

References

Covell, D., Walker, S., Siciliano, J., Hess, P.W. (2017). Chapter 3-Information technology management and the sports media. *Managing Sports Organizations*, *no* 2, 82-115.

Eskofier, B., Oleson, M., DiBenedetto, C., Hornegger, J. (2019). Embedded surface classification in digital sports. *Pattern Recognition Letters*, *no* 30(16), 1448-1456.

Mahmood, M.A., Mann, G.J. (2018). Impact of information technology investment: Anmpirical assessment. *Accounting. Management and Information Technologies, no* 3(1), 23-32.

Nesen, O., Pomeshchikova, I., Druz, V., Pasko, V., Chervona, S. (2018). Changes of technical preparedness of 13-14-year-old handball players to develop high-speed and power abilities. *Journal of Physical Education and Sport*, *no* 18(2), pp. 878-884. DOI:10.7752/jpes.2018.02130

Ogun, A., Zoputan, I., Utibe, J., and Chukwudimma, O. (2019). Impacts of Information and Communication Technology (ICT) to the prevalence of obesity and elevated blood, *no* 4, 83-116.

Sansanwal, D.N. (2019). Use of ICT in Teaching-Learning and Evaluation. Central Institute of Education Technology, New Delhi NCERT.

Turaeva, N.M., Kamardinova, Sh.B. (2021). Мактабгача ва бошланғич таълимда жисмоний тарбия ва спорт йўналишида ахборот коммуникация технологияларини қўллаш самарадорлиги [The effectiveness of the use of ICT in the direction of physical culture and sports in preschool and primary education], pp.216-220. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=IDIfHrMAAAAJ&citation_for_view=IDIfHrMAAAAJ:2osOgNQ5qMEC

Watson, J.C., Tenenbaum, G., Lidor, R., & Alfermann, D. (2017). ISSP Position Stand on the Use of the Internet in Sport Psychology. *International Journal of Sport Psychology,* 1-19.

Xu, Yan. (2018). The status quo of China's sports information industry and countermeasures. *National Conference Papers Ju sports information.*

Zhao Li (2018). Sports information technology application and development. *Beijing University of Physical Education*, 2.

Ashanin, V., Filenko, L., Tserkovnaya, O., Ilidjev, O. (2013). Informatyzatsiya metodiv naukovykh doslidzhen' v fizychnomu vykhovanni ta sporti zasobamy interaktyvnykh tekhnolohiy. *Materialy IX konferencji «Strategiczne pytania swiatowej nauki – 2013», no.* 31, Polska, 39-46. [in Ukrainian]

Pomeshchikova, I., Filenko, L.V. (2019). Vdoskonalennya taktychnoyi pidhotovky yunykh basketbolistiv 14-16 rokiv zasobamy informatsiynykh tekhnolohiy. *Sportyvni ihry*, *no* 3(13), 41-48. doi: 10.15391/si.2019-3.05. [in Ukrainian]

Filenko, L.V. (2017). Alhorytmichni osnovy pobudovy navchal'no-trenuval'noho protsesu studentiv-sport·smeniv iz vykorystannyam informatsiynykh tekhnolohiy. *Visnyk Prykarpat·s'koho universytetu. Seriya: Fizychna kul'tura*, V.27-28, 318-323. [in Ukrainian]

Filenko, L.V., Nesen, O.O. (2018). Informatyzatsiya pidhotovky studentiv-handbolistiv zasobamy multy'mediynoyi komp'yuternoyi prohramy «Handbol». Sportyvni ihry, *no* 1(7), 54-61. [in Ukrainian]

Information about the Authors / Відомості про авторів

Turaeva Nasiba Mirkhamidovna, *lecturer at the Uzbek State University of Physical Culture and Sports (19 Sports Street, Chirchik, Uzbekistan).*

Тураева Насиба Мирхамидовна, *преподаватель Узбекского государственного университета физической культуры и спорта (ул.Спортивная 19, г.Чирчик, Узбекистан).*

Тураєва Насіба Мірхамідівна, *викладач Узбецького державного університету фізичної культури та спорту (вул.Спортивна 19, м.Чирчик, Узбекистан).*

http://orcid.org/ 0000-0002-2986-684X

Email mail: t.nasiba@gmail.com

Ibragimova Sayyora Babashevna, *senior lecturer of the Uzbek State University of Physical Culture and Sports (19, Sports Street, Chirchik, Uzbekistan).*

Ибрагимова Сайёра Бабашевна, *старший преподаватель Узбекского государственного университета физической культуры и спорта (ул.Спортивная 19, г.Чирчик, Узбекистан*

Ібрагімова Сайора Бабашівна, *старший викладач Узбецького державного університету фізичної культури та спорту (вул.Спортивна 19, м.Чирчик, Узбекистан).*

http://orcid.org/ 0000-0002-8118-8919

Email mail: sayyora67@mail.ru

Olkhovskaya Irina Valyerevna, *senior lecturer of the Uzbek State University of Physical Culture and Sports (19, Sports Street, Chirchik, Uzbekistan).*

Ольховская Ирина Валерьевна, *старший преподаватель Узбекского государственного университета физической культуры и спорта (ул.Спортивная 19, г.Чирчик, Узбекистан).*

Ольховська Ірина Вальєрівна, *старший викладач Узбецького державного університету фізичної культури та спорту (вул.Спортивна 19, м.Чирчик, Узбекистан).*

http://orcid.org/0000-0003-2322-7868

Email mail: irina_o@gmail.com

Ludmila Filenko: *PhD (physical education and sport), Associate Professor; Kharkiv State Academy of Physical Culture:Klochkivska str. 99, Kharkiv, 61058, Ukraine.*

Филенко Людмила Васильевна: *к.физ. восп., доцент; Харьковская государственная академия физической культуры: ул. Клочковская 99, г. Харьков, 61058, Украина.*

Філенко Людмила Василівна: *к. фіз. вих., доцент; Харківська державна академія фізичної культури: вул. Клочківська 99, Харків, 61058, Україна.*

http://orcid.org/0000-0001-6221-6606

E-mail: filenkolv@ukr.net