

International Scientific and Practical Conference. Food and environmental security in the conditions of war and post-war reconstruction: challenges for Ukraine and the world: Mat. International _ science and practice conference , section 4: Quality of education and humanitarian science in conditions of war and global challenges (Kyiv, May 25, 2023). Kyiv, 2023. P. 297-299. - [Electronic resource] . – Access mode: https://nubip.edu.ua/sites/default/files/u187/sekciya_4_0.pdf

4.The regulation on the preparation, holding and development of the All-Ukrainian competition "Side by Side All-Ukrainian School Leagues in Sports Orienteering" among students of secondary education institutions for the 2023/2024 academic year under the slogan "TOGETHER WE WILL WIN" was approved by order of the Ministry of Youth and Sports of Ukraine No. 1158/5.2 /23 dated 08.12.2023.

5.Sakhno A.M. Formation of spatial ideas in preschool children. Master thesis. Cherkasy National University named after Bohdan Khmelnytskyi - Cherkasy, 2019 - [Electronic resource] . – Access mode: <https://eprints.cdu.edu.ua/4096/1/sahno.pdf>

6.The system of work on the formation of spatial representation in children. - [Electronic resource] . – Access mode: http://osvita-mvk.if.ua/content&content_id=2106

7.Chernysh V.O. Orientation in a closed room (class synopsis). - [Electronic resource] . – Access mode: https://vseosvita.ua/library/orientuvanna-u-zakritomu-primisenni-konspekt-zanatta-409163.html?__cf_chl_tk=YEPLqjVOq3c64qQSiBp0dpp.P7esyn8QPuKbY5NSGOE-1679900842-0-gaNycGzNCz

DOI: [https://doi.org/10.31392/UDU-nc.series15.2024.1\(173\).06](https://doi.org/10.31392/UDU-nc.series15.2024.1(173).06)
UDK 796.417

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TEACHING OF ACROBATIC EXERCISES IN AIKIDO AND CAPOEIRA FOR ADULTS OF THE FIRST AND SECOND PERIOD OF ADULTHOOD

The presented scientific research examines the problem of teaching adults of the first and second periods of adulthood, practicing aikido and capoeira, basic acrobatic exercises, the performance of which is provided for in the program of the indicated martial arts. This aspect is considered problematic due to the fact that the acrobatic elements are the basis for performing body safety during a fall, attack and defense, however, learning of acrobatic exercises from scratch in adulthood can both lead to injuries and is the only prevention from them.

It was found that the planned inclusion of acrobatic exercises in the study program of both aikido and capoeira, for adult athletes, not only allows you to significantly increase the effectiveness of classes, but also improves the work of the vestibular apparatus, the speed of reaction and allows you to maximize the possibility of practicing both the mentioned martial arts and physical activity.

Key words: *acrobatics, aikido, capoeira, adults, first period of adulthood, second period of adulthood*

Романова В., Серпутко О., Степанюк С. Навчання акробатичних вправ в айкідо та капоейра для дорослих першого та другого періоду зрілого віку. В представленій науковій розвідці розглянуто проблему навчання дорослих першого та другого періоду зрілого віку, що займаються айкідо та капоейра, базовим акробатичним вправам, виконання яких передбачено програмою вказаних бойових мистецтв. Проблемним є питання вивчення акробатичних вправ як на тренувальному занятті як з айкідо, так і з капоейра, адже саме вони є основою для виконання страховки тіла при падінні (має укемі, уширо та тобі укемі в айкідо), атаки та захисту (ау, аерео та інші техніки в капоейра). Крім того, вивчення акробатичних вправ з нуля у зрілому віці та ще у прикладному аспекті – це додаткові ускладнюючі моменти, що, можуть як призвести до травмування, так само і є їхньою єдиною профілактикою, однак ефективно вирішення яких дасть можливість покращити результативність спортсменів, їх самопочуття та підвищити їх самооцінювання, що часто є вирішальним моментом для того, щоб дорослі продовжували займатися даними видами одноборств.

У даній статті розкрито та охарактеризовано стан фізкультурно-спортивної діяльності спортсменів з капоейра та айкідо першого та другого періоду зрілого віку, значення якої полягає не тільки у розвитку відповідних реакцій та рухових навичок, а також збереження рухомості суглобів та сприяння збереженню здоров'я, але і фізичний розвиток, відповідно до вікових норм та самопочуття.

Виявлено, що планомірне включення акробатичних вправ в програму вивчення як айкідо, так і капоейри, для дорослих спортсменів, не тільки дозволяє значно підвищити результативність занять, а й виступає профілактикою можливих падінь, покращує роботу вестибулярного апарату, швидкість реакції та дозволяє максимально продовжити можливість практики як зазначених бойових мистецтв, так і фізичної активності.

Ключові слова: акробатика, айкідо, капоейра, дорослі, перший період зрілого віку, другий період зрілого віку.

Formulation of the problem. In aikido, the execution of the technique involves a full-fledged uke attack (the so-called "last blow"), under which condition the nage, that is, the person performing the technique, using a minimum of movements and movements, initiates a technical technique that in a real fight would lead to a fatal result, in a training fight requires maximum preparedness and reaction from the uke, i.e. the attacker, the result of which should be the perfect execution of an acrobatic trick, which at the same time is a preventive protection against injury – this is ukemi, the type of which depends on the nature of the attack.

Capoeira has its roots in the culture of African peoples, the best and strongest of which were taken to Brazil at one time, where a unique combination of tank, game, music and military training was formed, which by its nature was suitable due to a large number of acrobatic movements and for the physical education of young people, even without the possibility of special training, and to maintain the physical condition of the older generation, which was a reserve force and a source of knowledge in the event of a rebellion. The opportunity to fight against an armed enemy while being with tied hands required African warriors to actively use acrobatic tricks, adapting them to practical needs as much as possible.

It is these factors that prove the relevance of acrobatics in the study of both aikido and capoeira, but the real picture consists of a number of obstacles facing the coach and members of the groups, because the adults of the first (22-35 years old for men and 21-35 years old for women) and the second of mature age (36-57 years for women and 36-60 for men) experience great difficulties in learning acrobatic elements, especially if they do not have previous experience in this [5].

As a result of their own observations, practice and study of the experience of domestic and foreign colleagues, the authors offer their own method of step-by-step training of adult athletes in acrobatic techniques, which are in demand in the mentioned martial arts, with the aim of preventing possible injuries, expanding the combat arsenal, increasing the technical level and maximally extending the life of practitioners, as well as the involvement of women in martial arts.

The **purpose of research** was to determine the methods of teaching acrobatic exercises in aikido and capoeira for adults of the first and second period of adulthood.

Analysis of recent research and publications. Taking into account the fact that acrobatics for martial arts in general, and for aikido and capoeira in particular, is fundamentally different from sports acrobatics, we are investigating training methods and techniques, the form of elements and their practical purpose, both among domestic and foreign scientists engaged in the study and analysis of sports science, there is no information about the peculiarities of learning acrobatic elements by adults in the context of martial arts.

However, we consider the research of Chobotko M.A. to be effective (2023), as well as Shalar's O.G. (2021), as well as purposeful explorations by Stepanyuk S.I. and Serputko O.K. (2022, 2023).

The presented study is an attempt to summarize the practical evidence of teaching acrobatic exercises in an adult group in aikido and capoeira, to analyze and study all the data and experience regarding the introduction of acrobatic elements into the martial arts program for adults in the first and second periods of adulthood.

Results of the research and discussion. Acrobatic exercises are a branch of gymnastics aimed at developing the balance of functions and reactions of the athlete's body, as well as jumping, strength, flexibility and agility, which are important qualities when learning martial arts, in particular:

- capoeira, which is based on the cultural and musical component of African peoples, which already in the territory of Brazil were transformed under the guise of a folk dance and game into a full-fledged martial art and a philosophical concept based on human life, its value and the struggle for life at any cost, as well as the unity of the family, the people, the old and the new, knowledge of one's roots and origin [1, 3];

- as well as aikido, which is based on the experience of the Japanese samurai, their code of honor, which is more important than life, a complex of techniques derived from the mastery of historical long weapons and involves heavy weapons, so the technique should be as short and precise as possible, and end in death the enemy, however, for training purposes, instead of a fatal fall, the concept of body insurance was introduced as ukemi, which is an acrobatic trick that allows you to avoid injury [7, 8, 9].

On the one hand, each of the listed martial arts uses elements of acrobatics for a different purpose, on the other hand, the study of acrobatics in itself contributes to the physical development of athletes, allows you to strengthen muscles and joints, stabilize weight, improve the general physical condition of the athlete, and, therefore, the need for study is determined not only by the specifics of a certain type of single combat, but also by the physical need of athletes for versatile development [2].

In particular, the study of acrobatic exercises is one of the most effective means of coordination training of athletes engaged in martial arts. Such exercises, with a comprehensive approach, within the framework of considering several different types of single combat, can include:

1. Headstand and handstand.
2. Roll forward, backward, sideways, from a low position and standing position.
3. Rotational overturns with the support of different parts of the body without turning the head both in grouping and without it.
4. Somersaults in various variations, which are rotational movements with the legs over the head forward or backward in grouping, both in a fold and in a bent position, to different final positions.

5. Leg flips without a flight phase – wheel with two or one hand, or with a flight phase – wheel without hands.
6. Somersaults with flight, or phase-jumping movements with a body roll forward or back over the head with pushing off with hands and feet.

Studying and practicing acrobatic elements, both in the case of Aikido, which is practiced on the tatami, and in capoeira, which is practiced on any surface, without special equipment, of course, requires the presence of an elastic gymnastic surface and additional mats to ensure training safety. Also necessary is the help of an instructor, means of additional insurance, as well as safety instruction during the performance, study and practice of acrobatic elements [6].

Exercises for the development of acrobatic skills can be used as an independent exercise and as an element of technique or reception in any part of a training class, depending on the task, but it is advisable to use them during each warm-up for training the vestibular apparatus and preparing the joints for loads.

One of the main ways of using acrobatics in both aikido and capoeira is the practice of ukemi, or the art of falling, and while in aikido it is full contact with the surface, in capoeira it is recommended to avoid contact with the surface with the knees and elbows when performing a body belay, whenever it is possible. In turn, body insurance involves learning to fall safely, or rolls, when the partner performs a throw, a cut, knocking out a leg, an arm, and so on. Mastering this skill makes it possible to avoid injury or minimize it as much as possible, thanks to which the athlete can quickly recover, or get up to continue the fight [7].

In addition, acrobatic exercises can and should be used for demonstrations and performances for the purpose of popularizing sports and combatives. Such performances may include complex acrobatic movements and throws that have nothing to do with the practical application of such techniques, but demonstrate a high level of skill, excellent control of one's body, the ability to balance, strength and agility, which is a clear and visible measure for an audience who is not practices these single combats, and therefore cannot evaluate the technical and tactical potential of the martial arts being demonstrated [4].

Despite the significant difference in the basic approaches to studying aikido and capoeira, the principles of flexibility of the body and thinking are at the heart of both martial arts (that is, not to resist, but to change your reaction and actions according to the attack, while not compromising your own balance or interests), as well as communication and full integration with a partner (a partner as the main source of knowledge and self-improvement). At the same time, aikido promotes a more serious attitude, because every technique is based on the use of weapons, which means the death of a partner, even if imaginary, so studying aikido is about respect, modesty, persistence and constant self-education; while capoeira is a traditional game that teaches how to move, taking into account the conditions of society, the environment, the nature and rhythm of the music, and also the mood of the partner, who can be both a teacher and a friend, and a sworn enemy, so the rules are formed in the family, and there are no prohibited items [1, 7].

All of the listed aspects affect both the formation of each individual martial art and the peculiarities of the methods of studying each individual section of these disciplines. Yes, the dynamic stance of the jinga in capoeira is in itself the basis for a defense or strike, the role of which can be an acrobatic element, while in aikido the classical stance is static, however, in order to make a throw, it is necessary to put the partner off balance, which means that the applied force will be multiplied by the weight of the uke, and, therefore, due to the sharply increased dynamics, the danger of falling increases many times, as well as the risk of injury, and, therefore, without the formation of the skill of a quick reaction to the need to perform an acrobatic element, it is impossible to do.

Each age category has its own characteristics and difficulties in learning the acrobatic components of martial arts, because each age has its own needs and problems, overcoming which when working with adult athletes is always based on trusting relations both in the group and with the coach, who has full to have the method of individual training, so that adults can see their progress [4, 7].

Among the main problems faced by adult athletes during the study of acrobatics in aikido and capoeira, it is worth highlighting the following: stiffness, inflexibility, lack of emotional self-control, insufficient physical preparation, which may include both unpreparedness of the vestibular apparatus and insufficient muscle strength of the arms and legs, neck, back, to perform a number of acrobatic movements. As practice shows, in contrast to working with children and teenagers, where for each age and stage of learning a sports discipline, the performance of a certain acrobatic minimum is recommended, which involves a gradual increase in skill level, for adults, this process is always purely individual in nature [3, 5, 9].

Adult athletes often come to martial arts already having some sports experience, which forms the basis of learning and becomes the main measure of acceptance or rejection of new physical exercises. Therefore, it is worth using the available strengths of each adult athlete when explaining the technique of performing acrobatic exercises. At the same time, explanation and demonstration occupy a more important place in the learning process of adults, if compared with younger age groups.

Keeping the principle of gradualness and giving the opportunity to adult athletes in extracurricular time to form a focus and maximally form their visual experience in relation to certain acrobatic exercises, with the help of video materials, it is worth offering to perform not only basic exercises, but also special ones, because often, on the condition of prior preparation, adults succeed in complex exercises, while they may fail in basic and simpler exercises [6, 7].

Also, in adult groups of aikido and capoeira, when learning acrobatics, such types of work as: pair work and group work have proven themselves perfectly. Each member of the group must learn not only to perform acrobatic elements, but also to be able to perform belay for a partner, as well as to understand and be able to explain the physiological side of this process. In this way, athletes share their own experience, strengthening each other's work. An explanation from a student can be more understandable for another student than an explanation from a coach, which greatly encourages both parties and the whole group, especially in the case of success of such actions, because an adult martial arts group, regardless of the direction and discipline studied – it is a union of equals, and it is important for the coach to take this factor into account, promoting not only the physical development of his pupils, but also personal growth [2].

While both Aikido and Capoeira involve elements of physical movement, they differ significantly in their approach to acrobatics, according to applying of the techniques, philosophy, and physical education.

Aikido primarily focuses on defensive techniques that redirect an opponent's energy. While there may be some fluid movements and rolls, traditional Aikido doesn't emphasize acrobatics as a central component [8]. Capoeira, on the other hand, incorporates acrobatics as an integral part of its movements. It includes flips, kicks, and cartwheels, making it a more acrobatic martial art [3].

As for the philosophical part, Aikido is rooted in harmony and non-resistance, practitioners aim to neutralize aggression without causing harm to the attacker. The emphasis is on blending with the opponent's energy and redirecting it positively [9]. Capoeira has historical and cultural roots in Brazil and includes elements of playfulness, creativity, and community. The "roda" or circle where Capoeira is played, is a dynamic interaction between participants [1].

Capoeira incorporates dynamic and often acrobatic movements into its attacks and defenses. It's known for its expressive, flowing kicks, sweeps, and acrobatic escapes [3].

Aikido techniques often involve blending with an opponent's attack and redirecting their energy through joint locks or throws. The emphasis is on using minimal force to control or neutralize an attack [7].

Aikido training typically involves partner practice to understand and apply techniques. It emphasizes proper posture, balance, and fluid movements. Capoeira training is more dynamic and often involves music, singing, and constant movement. Physical conditioning includes strength, flexibility, and agility, with an emphasis on acrobatic skills.

Conclusions. Both Aikido and Capoeira offer unique approaches to acrobatics for adults. Aikido typically emphasizes fluid, circular movements and throws, while incorporating acrobatic rolls for defense. Capoeira, on the other hand, blends martial arts with dance and acrobatics, featuring dynamic kicks, spins, and flips within a rhythmic context.

Considering both directions in the context of teaching acrobatic exercises in working with adult athletes, it is very important in the desire to acquire physical skills not to lose the philosophical basis and principles of each type of martial art, because they are the basis and the main driving force of both aikido and capoeira, a calling card and a litmus test for realizing one's own progress and belonging to a certain social group.

Acrobatics in aikido and capoeira take on the features of a certain discipline, that is, in aikido it acquires fluidity, in order to maximally soften the collision with the surface, and in capoeira – dexterity and rapid change of form, depending on the partner's actions and malícia tricks.

In order to motivate the study of acrobatics in adult aikido and capoeira groups, it is advisable to consider the combat situation from a practical point of view, bringing it as close as possible to the realities of self-defense.

References

1. Campos, Hélio (Mestre Xaréu). *Capoeira na Universidade: Uma trajetória de resistência*. Salvador: EDUFBA. 2001, 204 p.
2. Douris, P., Chinan A, Gomez M, Aw A, Steffens D, Weiss S. Fitness level of middle age martial arts practitioners. *Br J Sports Med* 2004; 38: 143-147.
3. Downey, Greg. *Learning Capoeira: Lessons in Cunning from an Afro-Brazilian Art*. Oxford, New York: Oxford University Press. 2005, 68p.
4. Farrer, Douglas and John Whalen-Bridge. *Martial Arts as Embodied Knowledge: Asian Traditions in a Transnational World*. Albany: State University of New York Press. 2011.
5. Krutsevich, T., *Theory and methods of physical education. Methods of physical education of different groups of population*. Kyiv. Olimpiyska literature, 2012. Issue.2. 392 p.
6. Hikmat, Almadhkhori, Ratko, Pavlovic, Skrypchenko, Iryna, & Bouchareb, Rafahiya, Ram, Mohan Singh. Predictive value of kinematic indicators for shot put result and selection of novice athletes. *Health, sport, rehabilitation*, 7(4), 2021, 35-45. DOI: <https://doi.org/10.34142/HSR.2021.07.04.03>.
7. Stepanyuk, S., Serputko, O., Kharchenko-Baranetska, L., Koval, V., & Tkachuk, V. The problem of preparation of aikido athletes of the second period of adulthood for the first and second dan degree attestation. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (physical Culture and Sports)*, 1(145), 2022. p. 13-16. DOI: [https://doi.org/10.31392/NPU-nc.series15.2022.1\(145\).03](https://doi.org/10.31392/NPU-nc.series15.2022.1(145).03).
8. Hoa Newens. *Aikido Training Needs an Overhaul*. AIKIDO INSTITUTE DAVIS. 2023. URL: <https://aikidodavis.com/blog.html>
9. Augustin Lefebvre. The coordination of moves in Aikido interaction. *Gesture*, Volume 15, Issue 2, Jan 2016, p. 123-155. DOI: <https://doi.org/10.1075/gest.15.2.01lef>