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## **METHOD OF DEVELOPING FLEXIBILITY IN STUDENT BOXERS AND ITS IMPACT ON THE EFFECTIVENESS OF STRIKING TECHNIQUE**

### **Abstract**

This article is a study of the impact of flexibility development on the effectiveness of striking technique in students involved in boxing. Training methods aimed at increasing flexibility are analyzed, and their impact on such indicators as coordination of movements and accuracy of striking is studied. The experiment demonstrated a positive correlation between the level of flexibility and technical performance of athletes. The results of the study can serve as a methodological basis for optimizing the educational process of training future specialists in physical education and sports in universities.

**Key words:** boxing, student boxers, flexibility, punching technique, tests, physical fitness.

## **TALABA BOKSCHILAR O' RTASIDA MOSLASHUVCHANLIKNI RIVOJLANTIRISH METODOLOGIYASI VA UNING ZARBA BERISH TEXNIKASI SAMARADORLIGIGA TA'SIRI**

### **Abstract**

Ushbu maqola boks bilan shug'ullanuvchi talabalarda egiluvchanlikning rivojlanish darajasining zarba berish texnikasi samaradorligiga ta'sirini o'rganishdan iborat. Egiluvchanlikni oshirishga qaratilgan mashg'ulot uslublari tahlil qilinib, harakat koordinatsiyasi, zarba berish aniqligi kabi ko'rsatkichlarga ta'siri o'rganiladi. Tajribani o'tkazish egiluvchanlik darajasi va sportchilarning texnik ko'rsatkichlari o'rtasida ijobiy bog'liqlikni ko'rsatdi. Tadqiqot natijalari oliy ta'lim muassasalarida bo'lajak jismoniy tarbiya va sport mutaxassislarini tayyorlash o'quv jarayonini optimallashtirish uchun metodologik asos bo'lib xizmat qilishi mumkin.

**Kalit so'zlar:** boks, talaba bokschilar, egiluvchanlik, zarbalar texnikasi, testlar, jismoniy tayyorgarlik.

## **МЕТОДИКА РАЗВИТИЯ ГИБКОСТИ У СТУДЕНТОВ-БОКСЕРОВ И ЕЕ ВОЗДЕЙСТВИЕ НА ЭФФЕКТИВНОСТЬ УДАРНОЙ ТЕХНИКИ**

### **Аннотация**

Настоящая статья представляет собой исследование воздействия уровня развития гибкости на эффективность ударной техники у студентов, занимающихся боксом. Анализируются методики тренировок, направленные на повышение гибкости, а также изучается их влияние на такие показатели, как координация движений и точность нанесения ударов. Проведение эксперимента продемонстрировало положительную корреляцию между уровнем гибкости и техническими показателями спортсменов. Результаты исследования могут служить методологической основой для оптимизации учебного процесса подготовки будущих специалистов физической культуры и спорта в вузах.

**Ключевые слова:** бокс, студенты-боксеры, гибкость, техника ударов, тесты, физическая подготовленность.

Currently, boxing is rightfully considered one of the most popular and spectacular sports in the world, having received wide recognition at the highest level, both in amateur and professional competition leagues. The dynamics of the development of this sport over the past decades have clearly demonstrated its impact on the cultural life, physical fitness and general health of people around the world. This contact sport is steadily gaining popularity, attracting attention for its versatility, effectiveness and aesthetics, combining strength, speed and skill.

In Uzbekistan, boxing has deep roots in history and plays a key role in the country's sporting culture. Uzbekistan today is one of the most prominent boxing nations, with an impressive number of World Championship and Olympic titles to its credit. World boxing stars such as Bakhodir Jalolov and Shakhram Giyasov not only bring honor to the country, but also serve as an example for the younger generation, attracting them to sports [4].

In boxing, in addition to technical and tactical skills and psychological attitude, the foundation of success is the physical training of the fighter. Striving for the heights of skill, boxers are required to develop strength, endurance, speed, coordination of movements and flexibility. It is these physical parameters that determine the effectiveness of strikes, the reliability of defense and the ability to instantly adapt to the dynamics of combat [3].

Flexibility, as a key element of physical fitness, is essential for improving boxing technique. To achieve maximum amplitude and accuracy when delivering punches, boxers need to develop flexibility that covers not only the legs, but also the shoulder girdle, back, and torso. This aspect is especially important for student boxers who, unlike professional athletes, are still at the stage of forming their physical foundation. Developing flexibility helps students to adapt more quickly to training loads and hone their technique, minimizing the likelihood of overexertion and injury [2].

Dynamic "stretching" and exercises aimed at developing flexibility have become an integral part of the training routine of students involved in boxing. These elements of the training

process are important for improving physical fitness, improving endurance and strengthening the muscular system. In addition, they have a significant impact on the psychological state, giving confidence in one's own technical skills and readiness to change the combat situation. Students need a holistic approach that includes developing flexibility, as it directly affects their ability to deliver more varied and complex strikes, as well as react quickly to opponents' attacks [1].

**The aim of the study** was to develop an effective methodology for training flexibility in student boxers in the context of their training at universities in order to improve their punching technique and reduce the risk of injury.

**Organization and conditions of the experiment.** The ascertaining experiment was carried out during one semester at the branch of the Russian State Pedagogical University named after A.I. Herzen in Tashkent. The study involved 20 second-year students. All subjects were members of the university boxing team and had a sports qualification of at least the first junior category.

The experiment was necessary to determine the relationship between the systematic development of flexibility and changes in physical condition, as well as to assess the improvement in the quality of performance of technical elements in boxing.

All students were enrolled in a single experimental group. The training was carried out according to a carefully designed program, which included flexibility exercises, organically integrated into regular boxing classes. The program involved the use of two types of exercises: static and dynamic, as well as elements of active stretching performed in conjunction with boxing techniques.

Training sessions were held three times a week for 90 minutes. During the training, changes in the level of flexibility development, as well as punching technique, were constantly monitored.

Before and after the experiment, control testing was performed. The tests used were aimed at assessing both flexibility indicators and some characteristics related to the technical skills of students' special physical training: Forward bend while sitting (cm); Side bend (cm); Arm movement amplitude (cm); Frequency of punches

“hitting pads” in 10 seconds (number); Accuracy of punches “hitting pads” (out of 10); Performing punches “hitting pads” in 30 seconds (points).

The test results were subjected to comparative analysis. For this purpose, methods of mathematical statistics were used, which allowed identifying statistically significant differences.

The flexibility training method for boxing students was designed to improve joint mobility and muscle elasticity, which directly affects the accuracy, strength and range of punches. Training sessions were held three times a week, each lasting 90 minutes, for one semester. The program included dynamic and active stretching, integrated directly into the boxing training process, as well as elements of static stretching aimed at increasing the range of motion.

Flexibility exercises were included in every part of the training process: in the warm-up, in the main part, and in the cool-down. The dynamic warm-up included swings and circular movements of the arms, bends and turns of the body, as well as lunges with turns of the body.

The main part focused on stretching exercises: for the shoulder joints, such as the "lock" behind the back or swings with an elastic band; for the spine, such as the "cat" or seated twists; for the hips and ankles, such as deep lunges, splits and

the "frog".

The final part is “stretching”, targeting the muscles of the legs, back, shoulders and chest.

The peculiarity of this training system was the harmonious combination of gymnastic elements aimed at "stretching" and basic boxing techniques. In other words, "stretching" was combined with the honing of straight and side punches, series, dodges and movements around the ring. As a result, a strong functional connection was created: the development of flexibility was directly linked to the possibility of its use in real combat.

The principle of increasing the load was implemented through a consistent increase in the holding time of the “stretch”, the amplitude of the deviation and the degree of complexity of the coordination tasks. The key point was individual adjustment: the trainer varied the intensity of training sessions, focusing on the starting level of training and the physiological state of those involved.

The results of the comparative analysis presented in the table demonstrated the positive effect of the method before and after its application. This served as a strong argument in favor of the practical importance of integrating flexibility exercises into the training process of student boxers.

**Table**

Dynamics of flexibility and punching technique indicators in student boxers, (n=20)

№ s/n	Tests	Before the ex- periment	After the experi- ment	Growth, (%)
1.	Seated Forward Bend, (cm)	9,2±2,1	10,7±2,0	16,3
2.	Side tilt, (cm)	18,5±2,4	23,1±2,2	24,9
3.	Arm movement range, (cm)	35,0±3,1	41,3±3,0	18,0
4.	Frequency of blows "hitting pads" per 10 sec, (quantity)	21,4±2,7	25,8±2,5	20,6
5.	Accuracy of hits "hitting pads", (out of 10)	6,8±1,2	8,4±1,1	23,5
6.	Performing punches “hitting pads” for 30 sec, (points)	5,9±1,0	7,3±1,0	23,7

After completing the experiment, the student boxers showed significant improvements in their flexibility scores. The most impressive improvement was seen in the seated forward bend test, where a 16,3% increase was recorded. This result indicates a significant increase in mobility in the hip joints and lumbar region. In addition, a significant increase was noted in the side bend tests, as well as in the range of arm movements. All this confirms the high efficiency of the developed program of exercises for "stretching".

In addition to flexibility, there was progress in the technical aspects of striking. The frequency and accuracy of hits "hutting pads" increased in the range of 20,6-23,7%, indicating a direct influence of flexibility on coordination, speed and control of striking technique. It is worth emphasizing the improvement of speed indicators in a series of strikes, which indicates a comprehensive improvement in motor skills.

The study **found** a positive impact of flexibility

training on punch quality in student boxers. The program, which included various types of stretching – dynamic, active and static – resulted in significant improvements in all key testing parameters.

The results of the experiment fully confirmed the initial assumption: body flexibility has a significant impact on improving the technical skills of boxers. This is especially true for such important indicators as accuracy, speed and overall effectiveness of punches. Therefore, it is highly recommended to include flexibility training exercises in a comprehensive training program for student boxers.

**Thus**, the proposed method of developing flexibility can serve as an effective tool for improving the technical preparedness of student boxers and can be recommended for use in the process of physical education in pedagogical universities.

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