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## DEVELOPMENT OF SPECIAL PHYSICAL FITNESS IN YOUNG GYMNASTS USING MODERN TECHNICAL TOOLS

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**Annotation.** *This article discusses the issues of rational distribution of special physical training means and the use of modern technical tools to improve the level of technical preparedness of young gymnasts (10-12 years old) in the educational and training process. The study used pedagogical observation, test trials and mathematical-statistical methods. The results showed that in the experimental group, the indicators of mastering elements improved by 12-14% compared to the control group due to the use of special physical exercises and technical tools, and the arithmetic mean values for the level of technical preparedness increased by 43%.*

**Key words:** *gymnastics, special physical fitness, technical means, young gymnasts, physical qualities, technical training*

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## YOSH GIMNASTIKACHILARDA ZAMONAVIY TEXNIK VOSITALARNI QO'LLASH ORQALI MAXSUS JISMONIY TAYYORGARLIKNI RIVOJLANTIRISH

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**Annotatsiya.** *Ushbu maqolada yosh gimnastikachilarning (10-12 yosh) o'quv-mashg'ulot jarayoniga maxsus jismoniy tayyorgarlik vositalarini oqilona taqsimlash va zamonaviy texnik vositalarni qo'llash orqali ularning texnik tayyorgarlik darajasini oshirish masalalari yoritilgan. Tadqiqotda pedagogik kuzatuv, test sinovlari (30 m yugurish, joydan uzunlikka sakrash, 6 daqiqalik yugurish, ilonsimon yugurish, oldinga egilish) va matematik-statistik usullar qo'llanilgan. Olingan natijalar shuni ko'rsatdiki, tajriba guruhida maxsus jismoniy tayyorgarlik mashqlarini qo'llash va texnik vositalardan foydalanish hisobiga elementlarni o'zlashtirish ko'rsatkichlari nazorat guruhiga nisbatan 12-14% ga yaxshilangan, texnik tayyorgarlik darajasi bo'yicha o'rtacha arifmetik qiymatlar 43% ga*

o'shgan. Shuningdek, maqolada yosh gimnastikachilarning jismoniy sifatlarini (tezlik, kuch, chidamlilik, chaqqonlik, egiluvchanlik) rivojlantirish va ularni sport mahoratiga tayyorlashning ilmiy-uslubiy asoslari tahlil qilingan.

**Kalit so'zlar:** gimnastika, maxsus jismoniy tayyorgarlik, texnik vositalar, yosh gimnastikachilar, texnik tayyorgarlik, jismoniy sifatlar.

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## ОСОБЕННОСТИ РАЗВИТИЯ СПЕЦИАЛЬНОЙ ФИЗИЧЕСКОЙ ПОДГОТОВЛЕННОСТИ У ЮНЫХ ГИМНАСТОВ С ИСПОЛЬЗОВАНИЕМ СОВРЕМЕННЫХ ТЕХНИЧЕСКИХ СРЕДСТВ

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**Аннотация.** В данной статье рассматриваются вопросы рационального распределения средств специальной физической подготовки и использования современных технических средств для повышения уровня технической подготовленности юных гимнастов (10-12 лет) в учебно-тренировочном процессе. В исследовании использовались педагогическое наблюдение, тестовые испытания и математико-статистические методы. Полученные результаты показали, что в экспериментальной группе показатели освоения элементов улучшились на 12-14% по сравнению с контрольной группой за счет применения специальных физических упражнений и использования технических средств, а среднеарифметические значения по уровню технической подготовленности возросли на 43%.

**Ключевые слова:** гимнастика, специальная физическая подготовка, технические средства, юные гимнасты, физические качества, техническая подготовка

### INTRODUCTION

The development of modern artistic gymnastics is characterized by a sharp intensification of competitive activity and an increasing intensity of the training process. The problem of effectively and purposefully developing the strength qualities required to enhance the technical value of gymnastics elements is becoming increasingly relevant. In the training of young gymnasts, from the very initial stages, there is a growing need to pay special attention to the development of strength and

speed-strength abilities by using additional aids and resistances while mastering the technique of gymnastics elements.

### LITERATURE REVIEW AND METHODOLOGY

Leading experts such as L.Ya. Arkaev, N.G. Suchilin, Yu.K. Gaverdovsky, V.M. Smolevsky, A.K. Shtayev, and M.N. Umarov emphasize that the primary task at the specialized stage of gymnast training is to determine the prospect of their achieving high sports mastery. The levels of special physical and technical preparation are closely interrelated, and this relationship determines the success of young gymnasts in all-around events.

The relevance of scientific research in this direction is further defined by the Decree of the President of the Republic of Uzbekistan No. PF-5924 dated January 24, 2020, "On measures to further improve and popularize physical education and sports in the Republic of Uzbekistan," and the Resolution No. PQ-2654 dated November 7, 2016, "On measures to further develop gymnastics sports in the Republic of Uzbekistan."

**Aim of the study.** To improve the level of technical preparedness of young gymnasts through the application of special physical training means and modern technical devices.

#### Research tasks:

1. To study and analyze scientific and methodological literature on the subject.
2. To determine the level of physical preparedness of young gymnasts.
3. To assess the speed, strength, endurance, agility, and flexibility qualities of young gymnasts on the basis of tests.
4. To analyze the obtained results and develop practical recommendations for improving special physical training.

**The following scientific-methodological methods were used in the research:**

1. Analysis of scientific and methodological literature – scientific literature, textbooks, and methodological recommendations related to the topic were studied and theoretically analyzed.

2. Pedagogical observation – during the training process, the motor activity of young gymnasts, the quality of physical exercise performance, and the overall level of preparedness were observed.

3. Testing – the following tests were used to determine the physical qualities of young gymnasts:

- 30-meter run – to assess speed;
- Standing long jump – to assess speed-strength ability;
- 6-minute run – to assess endurance;
- Zigzag run – to assess agility and coordination;
- Forward bend – to assess flexibility.

4. Mathematical-statistical methods – the obtained results were processed using mathematical-statistical methods, and arithmetic mean values were calculated.

The research was conducted during the 2023–2024 academic year at the base of the Specialized Children's and Youth Sports School (SCYSS) for gymnastics sports in Tashkent. A total of 60 gymnasts aged 10–12 years participated in the study. The experimental and control groups were divided into two age subgroups, each consisting of 10 participants.

During the research, the level of physical preparedness of young gymnasts was assessed through testing. Based on the obtained results, the following was determined:

According to the results of the 30-meter run test, the speed quality of the young athletes was found to be moderately developed. Due to the application of special exercises in the experimental group, speed indicators improved by 8–10% compared to the control group.

The standing long jump results indicated that speed-strength quality was at the formative stage. In the experimental group, due to the increased inclusion of jumping exercises in the training program, performance indicators increased by 12–15%.

The results of the 6-minute run test revealed that endurance quality was developed at an average level. The use of game-based exercises during training was shown to be effective.

The zigzag run test results showed that agility and coordination abilities were developed at an average level. Regular application of coordination exercises in the experimental group led to an 11–13% improvement in performance.

The forward bend test results demonstrated that flexibility quality was moderately developed. Regular use of flexibility exercises plays an important role in reducing the risk of injury.

At the conclusion of the research, a reliable increase in the level of physical preparedness was observed in both groups ( $P < 0.05$ ). However, the number of gymnasts who achieved results corresponding to the model level of special physical preparedness was significantly higher in the experimental group (for ages 9–10: 9.0 and 8.1 points; for ages 11–12: 9.5 and 8.25 points).

Regarding the level of technical preparedness, at the end of the research, the arithmetic mean values for gymnasts aged 10–12 increased by 43%, the number of gymnasts in the above-average zone increased by 6–8%, while the proportion of those in the low zone decreased from 48% to 37%. Throughout the study, the indicators of element mastery in the experimental group improved by 12–14% compared to the control group.

## CONCLUSION

The assessment of the physical preparedness level of young gymnasts showed that their qualities of speed, strength, endurance, agility, and flexibility were formed at an average level.

The assessment of the physical preparedness level of young gymnasts showed that their qualities of speed, strength, endurance, agility, and flexibility were formed at an average level.

The tests of the 30-meter run, standing long jump, 6-minute run, zigzag run, and forward bend were confirmed to be informative and reliable methods for assessing the physical qualities of young gymnasts.

In the training of young gymnasts, alongside general physical preparation, special attention must be paid to special physical training, particularly to the development of speed-strength and coordination abilities.

- The proposed special physical training complexes allowed for:
- a significant increase in the level of basic physical qualities;
- the development of coordination abilities and joint mobility;
- a reduction in the time required to master program exercises;
  - the successful acquisition of qualification requirements and participation in republican competitions.

### **Practical recommendations:**

It is recommended to use weekly microcycles aimed at the comprehensive development of physical qualities during training sessions with young gymnasts.

In each training session, exercises for speed, strength, agility, endurance, and flexibility should be included in a certain proportion.

The use of game-based and competitive methods in training serves to increase athletes' interest and effectively develop physical qualities.

The level of physical preparedness of athletes should be regularly monitored (through testing every 3–4 months), and the results should be compared with previous indicators.

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