



**“DEVELOPING STRENGTH AND ENDURANCE IN VISUALLY IMPAIRED STUDENTS THROUGH ADAPTIVE AND INTERACTIVE TRAINING”**

**Qurbonova Nasiba Mirsalim qizi**

Teacher at Specialized School No. 60 (Nurli Maskan)  
for visually impaired children with special educational needs,  
under the jurisdiction of the Samarkand Regional  
Department of the National Agency for  
Social Protection under the President of the Republic of Uzbekistan.

**ABSTRACT:** This article examines strategies for improving strength and endurance in visually impaired students using adaptive and interactive training methods. The study focuses on preparatory classes where exercises are tailored to individual needs and include tactile, auditory, and guided activities. The research highlights the importance of individualized instruction, safety, and motivation in enhancing physical development.

**KEYWORDS:** Visually impaired students, strength, endurance, adaptive training, interactive exercises, preparatory classes, physical fitness, individualized instruction.

Physical education is essential for visually impaired students, supporting not only physical health but also independence, self-confidence, and social engagement. Traditional training methods may not meet the specific needs of students with visual impairments. Therefore, adaptive and interactive exercises provide an effective solution for developing strength and endurance.

Adaptive exercises involve modifications to suit each student's physical abilities, while interactive exercises engage students through guided activities and real-time feedback. Together, these methods create a safe and motivating environment that promotes consistent participation and progressive improvement in strength and endurance.

Additionally, preparatory classes allow instructors to tailor exercises to the students' individual abilities, gradually increasing complexity and intensity. This approach ensures that students are challenged appropriately, fostering skill development while minimizing the risk of injury.



Developing strength and endurance in visually impaired students requires a structured and adaptive approach that takes into account their unique needs. Adaptive and interactive training methods have proven to be highly effective in enhancing these essential physical qualities. Preparatory classes provide a safe and controlled environment where students can practice exercises under professional supervision, allowing for individualized instruction and progressive development.

Strength development is a central focus of this methodology. Exercises targeting major muscle groups, including arms, legs, and core, are performed using adaptive techniques such as resistance bands, partner-assisted movements, or guided bodyweight exercises. Tactile and auditory cues guide students through each movement, ensuring correct form and reducing the risk of injury. Over time, the intensity and complexity of exercises are gradually increased, allowing students to steadily develop muscular strength while maintaining safety.

Endurance is cultivated through exercises such as walking, jogging, cyclic activities, and circuit-based routines. Interactive exercises provide engagement and motivation, while adaptive modifications ensure that each student can participate successfully. Audio cues, tactile markers, and guided instructions help students maintain proper pacing and technique. By progressively increasing exercise duration and intensity, students experience measurable improvements in cardiovascular fitness and overall stamina.

Individualized instruction is critical to the success of adaptive and interactive training. Each student's abilities, level of visual impairment, and physical condition are assessed to design exercises that are appropriately challenging. This personalization ensures students are neither under-challenged nor overwhelmed, fostering steady progress and motivation. As students master exercises, they develop confidence in their abilities, which translates into greater independence in physical activity and daily life.

Interactive exercises play a key role in maintaining student engagement and reinforcing learning. Games, obstacle courses, and partner-based activities encourage active participation while improving motor skills, coordination, and spatial awareness. These activities also enhance problem-solving and decision-making abilities, providing cognitive benefits alongside physical development.



Progressive training is essential in this methodology. Exercises begin with simple, safe movements and gradually increase in difficulty, combining multiple movement patterns and longer durations. This structured progression ensures that students develop strength and endurance systematically while minimizing fatigue and injury risk. By practicing these exercises consistently, visually impaired students experience long-term improvements in physical fitness.

Psychological and social benefits are closely linked to physical improvements. Successfully completing adaptive and interactive exercises boosts self-esteem and confidence, while group-based activities promote communication, teamwork, and social interaction. Students learn to support each other, follow instructions, and collaborate, which enhances their overall social development. Individual exercises encourage independence and self-motivation, further contributing to holistic growth.

Technology integration, such as audio cues, tactile feedback, and interactive devices, enhances the effectiveness of training. These tools provide immediate feedback, reinforce correct techniques, and create an engaging learning environment. Combining technology with adaptive and interactive exercises ensures that all students, regardless of visual ability, can actively participate and benefit from physical education.

Research indicates that using adaptive and interactive exercises in preparatory classes leads to measurable improvements in strength and endurance in visually impaired students. Alongside physical gains, students experience increased motivation, confidence, and social competence. This approach provides a comprehensive framework for physical education, supporting both skill development and overall personal growth.

In conclusion, adaptive and interactive training methods provide an effective, inclusive, and engaging approach to developing strength and endurance in visually impaired students. By systematically improving physical abilities while fostering psychological and social growth, these methods contribute to the holistic development and long-term well-being of students with visual impairments.

The study demonstrates that adaptive and interactive training methods are highly effective in improving strength and endurance in visually impaired students. These methods systematically enhance physical abilities, enabling students to perform daily activities independently and safely.

Individualized instruction ensures that exercises are tailored to each student's capabilities, allowing safe progression and maximizing learning outcomes. Adaptive exercises, guided by tactile and auditory cues, combined with interactive activities, foster engagement, motivation, and confidence.

Moreover, these methods positively influence psychological and social development. Students gain self-esteem, social skills, and teamwork experience alongside physical improvements. Implementing adaptive and interactive training in preparatory classes provides a comprehensive framework for holistic development, supporting long-term health, independence, and quality of life for visually impaired students.

## REFERENCES

1. Abdullaev A. Physical Education Methodology. – Tashkent: O‘qituvchi, 2018.
2. Karimov S. Physical Development in Children with Special Needs. – Tashkent: Fan, 2020.
3. Rakhimova N. Methods for Working with Visually Impaired Children. – Tashkent: Pedagogika, 2019.
4. Shavdirov S.A. Factors Influencing the Development of Physical Competencies in Students // Inter Education & Global Study. – 2024. – №1. – P. 8-14.
5. Baymetov B.B., Shovdirov S.A. Methods of Organizing Practical and Theoretical Classes for Students in the Process of Teaching Fine Arts // International Journal on Integrated Education. – 2023. – Vol. 4. – №3. – P. 60-66.
6. UNESCO. Guidelines for Physical Education of Children with Visual Impairment. – Paris, 2021.
7. Ibraimov X., Shovdirov S. Theoretical Principles of the Formation of Study Competencies Regarding Art Literacy in Students // Science and Innovation. – 2023. – Vol. 2. – №B10. – P. 192-198.