

## ADAPTIVE PHYSICAL CULTURE: FEATURES OF PHYSICAL TRAINING OF STUDENTS

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### Abstract

This article provides an overview of the scientific and methodological literature, revealing the meaning and content of adaptive classes in physical education in higher education for students with visual impairments. The author points out the physiological and mental characteristics of such students, the need to develop a special methodology for working with them, educational and methodological support, with which it is possible, to correct the developmental characteristics of adolescents with visual impairments. The author developed a curriculum for conducting classes for this category of children and based on it developed methodological recommendations taking into account theoretical provisions.

**Key words:** adaptive physical education, lack of vision, higher education, methodological support.

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### INTRODUCTION

Today in Russia there is an increase in the number of young people with disabilities. Among them, the number of children and adolescents with visual impairment is growing particularly sharply. In the system of higher education measures for students with limited functional capabilities, its active forms are becoming increasingly important, the most effective of which is physical rehabilitation and social adaptation by means of physical culture and sports. Thus, a new discipline "Adaptive Physical Culture" is introduced in the curriculum of higher education.

In adaptive physical education, there is a tendency to transfer elements of the theoretical and methodological foundations of preparing healthy students in physical education for people with disabilities, taking into account the psychological and functional characteristics of students with disabilities.

### METHODOLOGY

Most of the work is devoted to certain aspects of the preparation of children with injuries of the musculoskeletal system, which is logical because this category is the largest among young people.

Adaptive physical culture is based on knowledge of the disciplines of the psychological and pedagogical cycle (pedagogy, psychology, theory and methodology of physical culture, etc.) (Litosh, 2002; Shmeleva, Pravdov, Kislyakov, & Kornev, 2016). and the biomedical cycle (anatomy, biochemistry, physiology, biomechanics, sports medicine, physiotherapy, hygiene), the content of which is transformed taking into account the professional orientation of future bachelors (Epifanov, 2006; Grets, 2008; Zotova, Ivanov, & Gerasimova, 2009; Gilev & Popkov, 2014; Kalenik et al, 2018).

A significant amount of scientific work is devoted to the psychological aspects of training young people with visual impairments, methodological features of the physical preparation of children with visual impairments, and the study of the relationship between physical fitness and sports results of people with visual impairments.

An analysis of the scientific and methodological literature allows us to conclude that there is no integrated approach to the study of the physical sports training of young people in the conditions of a higher school for the disabled and theoretical methodological foundations of training people with visual impairments in various sports.

The lack of theoretical and methodological foundations of the rational preparation of students with visual impairment and the need to correct means, methods, volume and intensity of the load in accordance with their physiological characteristics (Zolotukhina, Belikova & Dedlovskaya, 2017) determined the purpose of this study - to identify the features of preparing students with visual impairments in conditions of your high school.

The methodological basis of the study were:

- the concept of Asmolov A. G. on the subject of personality psychology, according to the driving force of personality development is a joint activity that promotes individualization of personality;
- methodological development of Burenin, I. A., which reflects the unity of psychosocial and biological methods of exposure, stepwise, phased rehabilitation;
- The concept of the development of adaptive physical education, described in the works of Valiullina, O. V. (Valiullina, 2006);

Research methods: theoretical analysis and synthesis of scientific and methodological literature.

### RESULTS AND DISCUSSION

Teachers Gorulev, P.S., & Makina, L. R argue that ophthalmic indicators are the basis for building classes in physical education and sports. Persons with visual impairments should be divided into two groups. The first group includes people with the following diseases: myopia, total blindness (complete atrophy of the optic nerve), and others. Persons of this group have no contraindications to sports. Students of the second group (progressive forms of myopia, glaucoma, it is contraindicated to perform static exercises, running, sharp torso (Gorulev, & Makina, 2011) ..

Since among students more than 60% have a large number of vision problems, for them sports training should be based on the characteristics of their body, the focus on the correction of means, methods and magnitude of the load should be directly determined.

Students with visual impairment are characterized by a lack of confidence in their motor actions, which leads to a negative, biased attitude towards the study of new motor actions. Mastering sharp and quick exercises for them is a difficult motor task, solving which children spend several times more time than healthy classmates. In addition, a decrease in the

development of coordination qualities is characteristic, which also complicates the study of motor actions at the initial training stage (Shlyapnikova & Shavshaeva, 2015; Orhan, 2018).

In our teaching practice, we noticed that students with visual impairments have various pathologies of the musculoskeletal system, in particular posture disorders, cardiovascular diseases, diseases of the throat organs, metabolic diseases, which requires correction of the educational process and its reduction in the manifestations of the disease.

In the psychoemotional aspect, children with visual impairments have inherent psychoemotional features (increased personal and situational anxiety, fear and the dominance of inadequate self-esteem, etc.), the level of manifestation of which directly depends on the level of preserved vision (Belova & Plotnikova, 2016).

Therefore, we believe that when developing curricula for high school students in the discipline "Adaptive Physical Culture", it is necessary to take into account the peculiarities of sports and recreation with such children, the principles of forming sports groups for students with visual impairments. To determine the level of physical development of persons with visual impairments during the initial selection in the first year, the initial stage of students' physical preparation.

At the Department of Natural Sciences, the Surgut Institute of Oil and Gas, teachers developed a curriculum for conducting classes for this category of children and based on it developed methodological recommendations taking into account the above theoretical provisions.

The main goal of the methodological recommendations is to develop a set of exercises taking into account the individual capabilities of the human body, age and other factors. The methodological recommendations provide theoretical and practical material for a course on adaptive physical education and sports for students of a technical university.

We offer the following set of exercises, which is based on the students' motor activity (Artamonova, Panfilov, & Borisova, 2019; Voronov, & Stolyarenko, 2010, etc.). To improve certain abilities of children with visual impairments, it is necessary to constantly repeat the studied movements. Given the difficulties in the perception of educational material, a visually impaired child needs a special approach to the learning process: when choosing exercises that inspire the student with confidence, a sense of security, comfort and confidence.

#### RECOMMENDATIONS:

- ☒ movement in lightened conditions (for example, running downhill, rolling forward from a small hill, etc.);
- ☒ movement in complicated conditions (for example, the use of additional weights - dumbbells 0.5 kg, narrowing the area of the support when moving, etc.);
- ☒ change in the process of performing exercises of such characteristics as pace, rhythm, speed, acceleration, direction of motion, amplitude, trajectory of movement, etc.;
- ☒ changing the external conditions for performing the exercises: on an elevated support, running in the gym and on the grass, skiing on loose snow and on a ski track, etc.;
- ☒ changing the starting positions for the exercise (for example, bending and extending the arms in focus while lying from the gymnastics bench or from the floor);
- ☒ the use of the studied movement in combination with other actions (for example, dribbling the ball in motion, followed by a throw to the target, etc.);
- ☒ use of simulation exercises (for example, a "bicycle" in a prone position, throwing without a projectile, etc.);
- ☒ use of landmarks during movement (sound, tactile, olfactory, etc.);
- ☒ use of resistance (exercises in pairs, with rubber shock absorbers, etc.);

☒ the use of insurance, assistance and support, which give confidence to the child when performing the movement.

The main means of physical rehabilitation of children with visual impairment are physical exercises:

- without items;
  - on shells (gymnastic wall, bench, log, rings, horizontal bar, ribbed board, fitness equipment - mechanotherapy, etc.);
  - with objects (gymnastic sticks, hoops, voiced balls, balls of different quality, color, weight, hardness, size, sandbags, 0.5 kg dumbbells, etc.);
1. Climbing and climbing (overcoming various obstacles).
  2. Ski training.
  3. General developmental exercises:
  4. Movement: walking, running, jumping.
  5. Swimming.
  6. Special exercises for visual training: to improve the functioning of the muscles of the eye; to improve blood circulation in the eye tissue; on the development of accommodative ability of the eye; on the development of skin optic sensation; on the development of visual perception of the environment, etc.
  7. Exercises for the development and strengthening of the musculo-ligamentous apparatus (strengthening the muscles of the back, abdomen, shoulder girdle, lower and upper extremities).
  8. Exercises for the development of fine motor skills of the hand.
  9. Exercises to strengthen the arches of the foot.
  10. Exercises for the development of the respiratory and cardiovascular systems.
  11. Exercises for the development and use of intact analyzers.
  12. Exercises for the development of balance, coordination abilities (coordination of movements of the arms and legs, training the vestibular apparatus, etc.). To improve coordination of movements, unusual or complex combinations of various movements, exercises on simulators are used.
  13. Exercises for the development of accuracy of movements and differentiation of efforts.
  14. Exercises for relaxation (physical and mental), muscle relaxation, a conscious decrease in the tone of various muscle groups. They can be both general and local in nature.
  15. Exercises on the formation of the skill of correct posture.

#### CONCLUSION

As a result of the analysis of the scientific and methodological literature on the physical preparation of students with visual impairment, the following conclusions can be drawn:

1. The development of training programs, educational and methodological support of the pedagogical process for such children should be based on the results of medical research, ophthalmological indicators and the characteristics of their body.
2. For persons with visual impairments, a low level of development of power endurance, coordination qualities is characteristic; such children require high energy consumption when performing a motor task, which is accompanied by rapid fatigue.
3. The study of the problem of physical training in higher education for people with visual impairments is not continuous in nature and is devoted to certain aspects of training, the development of individual physical qualities.
4. Thus, in modern higher education, teachers will have to develop their own methodology, forms of organization, means and methods for this type of training.

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