

DEVELOPMENT OF ENDURANCE ABILITY OF 6TH CLASS PUPILS THROUGH TRACK AND FIELD EXERCISES AS AN AFTER-SCHOOL ACTIVITY

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ABSTRACT

If we pay close attention to the lifestyle of middle schoolers, they are leading a hectic lifestyle, studying, doing housework, watching TV, playing computer and other things as most of them live a passive lifestyle. It is of paramount importance for them to find the right place in the future, to achieve effective results at work and, most importantly, to engage in physical education to improve their health. In this case, the development of endurance allows them to perform actions for a long time and increases the level of resistance of the body to fatigue. Endurance ability is one of the foundations of the structure of comprehensive physical training that reflects labour activity and functional capabilities.

Physical education remains a very important factor in shaping a healthy lifestyle in the fast-paced world. People have a great need for movement, and it is important to develop their physical qualities. Endurance has a special place among physical abilities. At the same time, it is very important to study the stages of forming resilience in young people.

Keywords: endurance, track and field, physical preparation, physical qualities and physical preparation.

In addition to physical education classes, research goals and objectives were determined to develop the endurance of 6th grade pupils through track and field exercises. The research was conducted during the 2021-2022 academic years, and the goal of the research was to determine the ways of effective use of track and field exercises in the development of endurance skills of 6th grade pupils as an after-school activity.

At the beginning of the research, the generalization of the pedagogical experience, the preliminary test and the level of development of endurance in pupils was determined, and the research results were collected and processed during the

experiment, as well as tests were used to assess the physical development, functional and physical preparation of the 6th graders, and preliminary data were obtained.

Then, based on the obtained data, a basic pedagogical experiment was carried out. To implement it, two groups of schoolchildren with the same initial indicators were selected. The total number of participants of the main experiment were 200 pupils. They were divided into an experimental group (100) and a control group (100). Each group consisted of 60 boys and 40 girls. In the experimental group, shuttle running with different directions, running for 1500 m and continuous running for 5-7 minutes were used to develop endurance.

Types and criteria of sports tests "Physical preparation level" were used to control the level of development of physical preparation of schoolchildren. The results of the research were tested and put into practice, yet no changes were observed in the control group, track and field exercises were used in the experimental group.

In 2021-2022, the stage of systematization of data obtained from pupils, analysis of indicators, processing with mathematical and statistical methods were done.

Since the duration of work is limited by fatigue, endurance can also be expressed as the body's ability to withstand fatigue. Fatigue is a condition characterized by a decrease in the body's ability to work as a result of long-term heavy activity. It appears after a certain period of time after the start of the work and is manifested in the inability to perform the activity with the previous efficiency.

The development of fatigue occurs in 3 stages and they are followings:

- ❖ The stage of compensated fatigue is the time of maintaining the previous pace, despite the increasing difficulties, due to the partial change of the biomechanical structure of voluntary efforts and movement actions.

- ❖ The stage of decompensated fatigue is the inability of a person to maintain the effectiveness of his activity despite all his efforts. If the work is continued in this state, after a while it will be time to refuse to do it.

- ❖ The stage of full exhaustion, a change in the speed, length and frequency of steps when performing periodic movement actions in the state of exhaustion, is presented.

In the phase of compensated exhaustion, even though the length of the steps is reduced, the speed is maintained due to the increase in the frequency of the steps. Fatigue is manifested in a decrease in the contraction force of the primary muscles, because of which there is a decrease in speed and a decrease in the length of steps. The frequency of steps plays the role of a compensatory mechanism here and ensures that the speed does not change abruptly for a certain period.

In the decompensated fatigue stage, the speed begins to decrease, despite the increase in the frequency of steps. In people with well-developed endurance, the first

and second stages of fatigue occur later under the same conditions, and the rate of work capacity decreases more slowly in the stage of complete exhaustion.

Endurance is essential in all types of physical activity. In one type of physical exercise, it confirms the result of sports (walking, running of medium and long distances, skiing), in others it allows performing certain tactical actions (boxing, wrestling, sports games, etc.), in others it is short to withstand many large loads and ensure quick recovery of forces (sprint running, jumping, weightlifting, etc.)

The level of development of endurance is evaluated based on two different indicators:

- **External indicators** - represent the effectiveness of human movement during fatigue.

- **Internal indicators** - reflect certain changes occurring in the activity of body parts and systems that confirm the performance of certain activities.

Until now, scientific studies have been conducted by several experts on the physical education of children, in which age-specific characteristics (V.S. Farfel, V.P. Filin, 1987; M. Linets, 1990; Ye. Malkov, 1991; A. I. Kravchuk, 1998; L. V. Volkov, 2002; V.P. Guba, R.S. Salomov, 2003; T.S. Usmonkhodjaev, 2006; I.G. Niyazov, 2007), moderation of loads (I.G. Maltseva, 1989; V.V. Ivochkin, 1990; S.S. Niyazov, 2006), development of physical qualities (A. Polunin, 1990) -1991; Yu. Verkoshansky, 2002; B.J. Yadgarov, 2007), functional abilities of the organism (N.I. Volkov, 1994), issues of endurance development (V.B. Popov, F.P. Suslov, I.E. Ivado, 1984; V.N. Kulakov, 1990; V.I. Lyakh, 1998) researched. Scientists of our country (Sh.Kh. Khankeldiev, 1996; K.T. Shakirjanova, 2007) also considered the problem of developing resilience in young people. However, it was found that the information on the use of athletics exercises in the development of endurance in the extracurricular activities of the 6th graders was not widely covered.

Physical development indicators were analysed to evaluate the effect of exercises used in extracurricular activities of 6th grade pupils. Initial physical development indicators were evaluated by 3 different tests. The height, weight and width of the chest were measured. The average results of the pupils were determined. At the beginning of the experiment, the height of the boys in the control group was 139 cm and the height of the girls was 143 cm. The height of the experimental group was 138 cm for boys and 142 cm for girls. At the beginning of the experiment, the weight of the control group of boys was 42.7 kg and the weight of girls was 45.5 kg. The weight of boys in the experimental group was 42.9 kg and the weight of girls was 45 kg.

Analysis of indicators of physical development in 6th grade pupils (before the experiment)

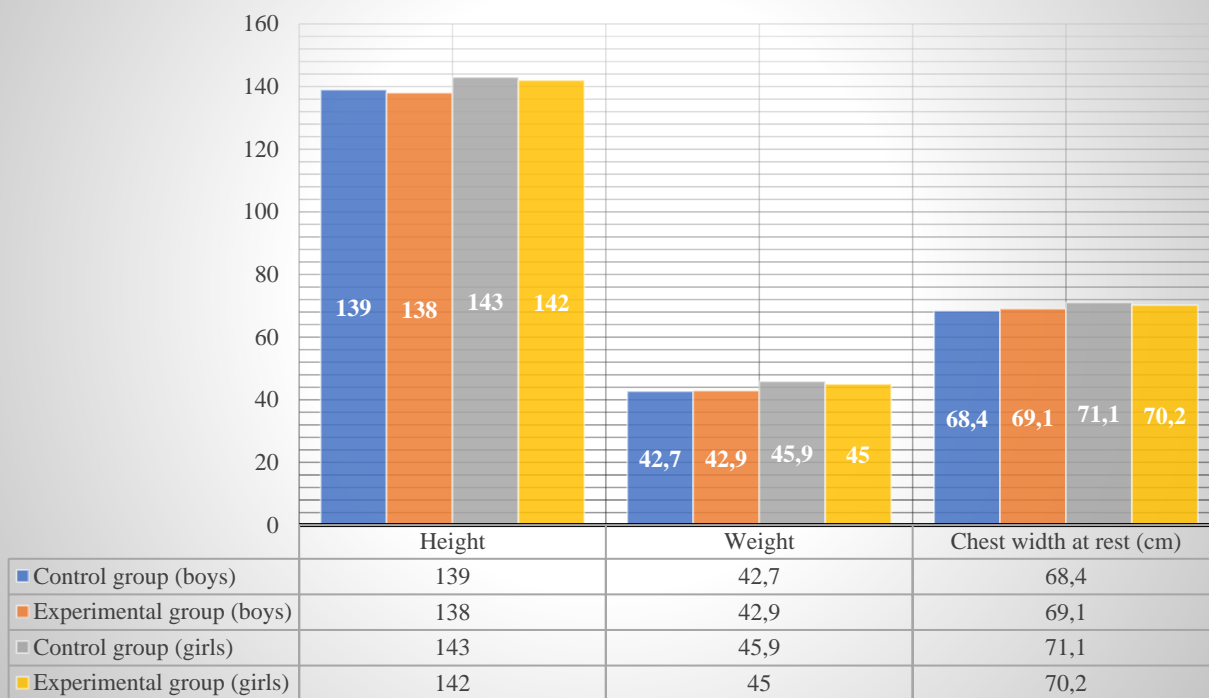


Figure 1. Analysis of indicators of physical development in 6th grade pupils (before the experiment)

At the beginning of the experiment, the control group witnessed a chest width of 68.4 cm for boys and 71.1 cm for girls, while the experimental group experienced a chest width of 69.1 cm for boys and 70.2 cm for girls. After the experiment, it became clear that there were changes in the physical development of the students.

After the experiment, the height of the control group was 144 cm for boys and 156 cm for girls. The height of the experimental group was 146 cm for boys and 154 cm for girls. After the experiment, the weight of control group boys was 44.1 kg, and the weight of girls was 49.3 kg. The weight of boys in the experimental group was 45.5 kg and the weight of girls was 49.1 kg. After the experiment, the width of the control group’s chest at rest was 74.2 cm for boys and 75.1 cm for girls. The experimental group showed a chest width of 74.4 cm for boys and 75.5 cm for girls.

Analysis of indicators of physical development in 6th grade pupils (after the experiment)

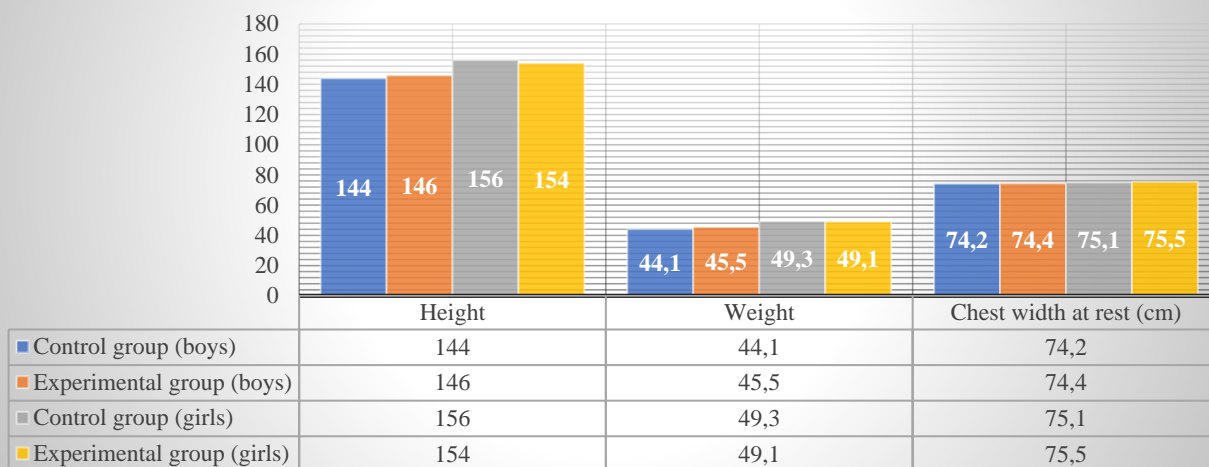


Figure 2. Analysis of indicators of physical development in 6th grade pupils (after the experiment)

The physical preparation of 6th graders was also monitored as well as four different tests were taken from them. These were the 30 m sprint, 3x10m shuttle run, leaning forward on a balance beam (cm) and 1,500-metre run. At the beginning of the experiment, boys of the control group completed the 30-m sprint in 5.9 seconds and girls in 6.6 seconds.

Preliminary results of 6th grade pupils on physical preparation (n=B-60, G-40)

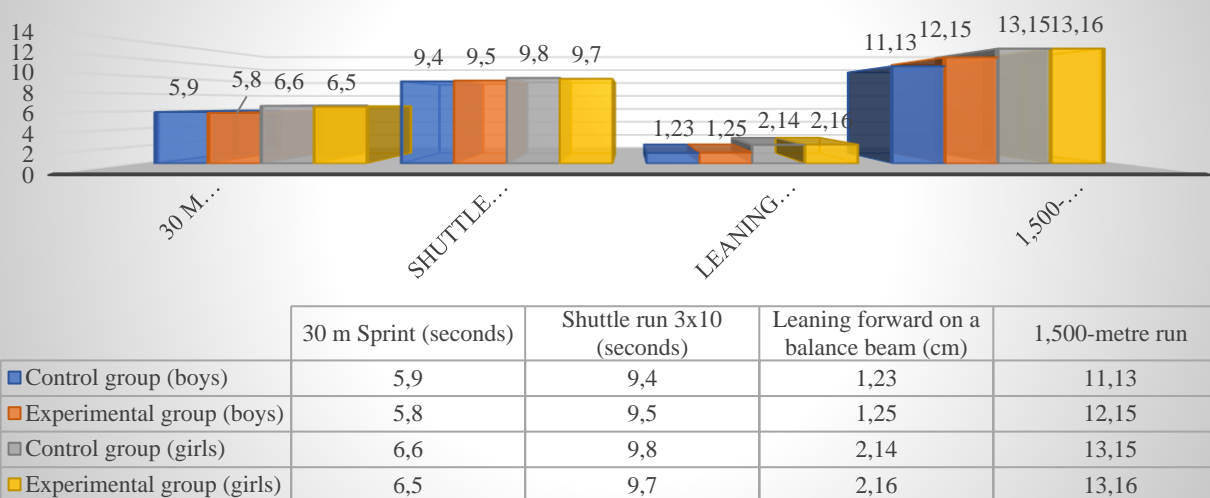


Figure 3. Preliminary results of 6th grade pupils on physical preparation

Boys of the experimental group completed the test in 5.8 seconds and girls in 6.5 seconds. The 3x10 m shuttle run test was completed by control group boys in 9.4

seconds and girls in 9.8 seconds. Boys of the experimental group completed the test in 9.5 seconds and girls in 9.7 seconds.

In the test called leaning forward on a balance beam, control boys showed 1.23 cm and girls 2.14 cm. The results of the experimental group were 1.25 cm for boys and 2.16 cm for girls. In the final 1,500-metre run test, the control group boys performed in 11.13 seconds and the control group girls in 13.15 seconds. Boys of the experimental group completed the test in 12.15 seconds while girls in 13.16 seconds.

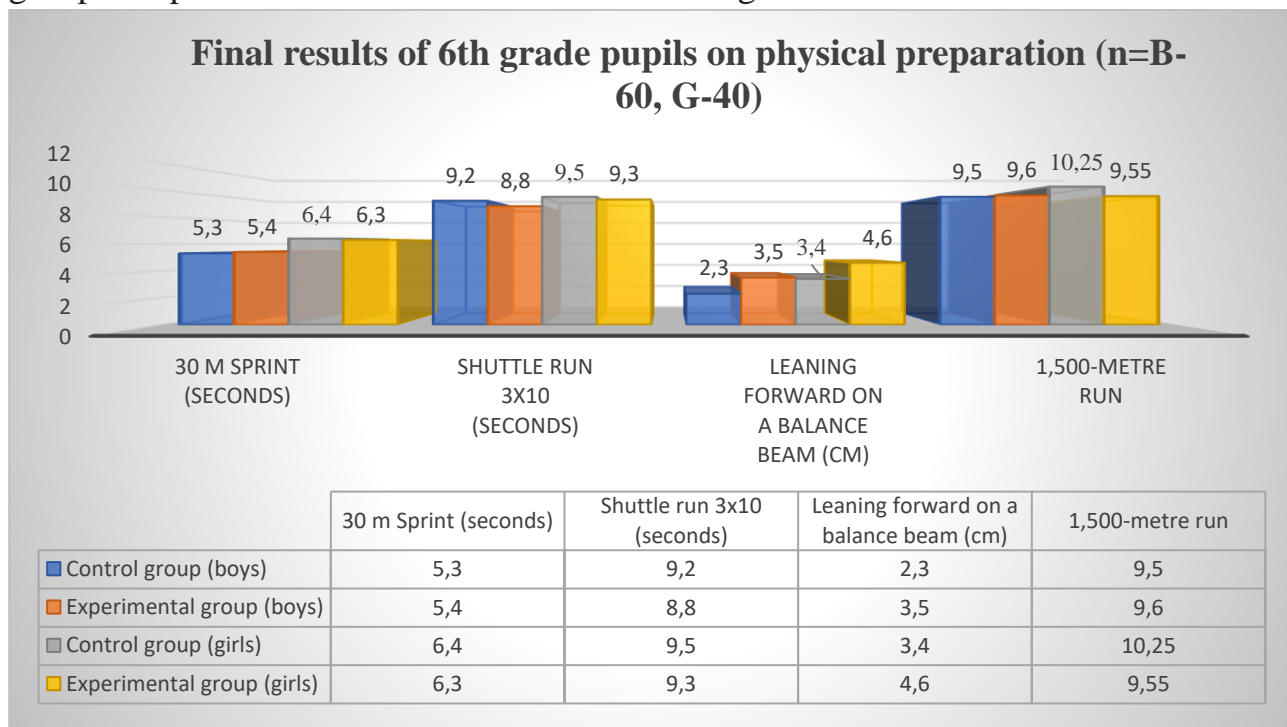


Figure 4. Results of 6th grade pupils on physical preparation

The results were retaken after the use of athletics exercises in extracurricular activities. After the experiment, boys in the control group completed the 30-meter sprint in 5.3 seconds and girls in 6.4 seconds. Boys of the experimental group completed the test in 5.4 seconds and girls in 6.3 seconds. The 3x10 m sprint test was completed by boys in the control group in 9.2 seconds and girls in 9.5 seconds. Boys of the experimental group completed the test in 8.8 seconds and girls in 9.3 seconds. In the test called leaning forward on a balance beam test, control group boys witnessed 2.3 cm and girls 3.4 cm. The results of the experimental group were 3.5 cm for boys and 4.6 cm for girls. In the final 1,500-meter sprint test, control boys performed in 9.5 seconds and girls in 10.25 seconds. Boys of the experimental group completed the test in 9.6 seconds and girls in 9.55 seconds.

Long-term research conducted by scientists really helps to assess the physical preparation of current schoolchildren. However, for more reliable conclusions, it is of paramount importance to conduct further monitoring of the progress of these processes. Analyzing the level of movement activity of modern schoolchildren at this age stage is

related to various factors, in particular, socio-economic living conditions, specific characteristics of the lifestyle adopted in the family, climatic and geographical conditions, creating favorable conditions for physical education. Also, it is necessary to improve the means and methods of physical education extracurricular activities at school, particularly, the development of endurance, because this physical quality is one of the main components of physical maturity. It is crucial to create conditions for the emergence of interest in physical education and sports among schoolchildren, therefore, considering the specific characteristics of each age group, it is appropriate to introduce more advanced methods of activity for schoolchildren of the 6th grade.

CONSIDERING THE ABOVE, WE HAVE DEVELOPED SEVERAL PRACTICAL RECOMMENDATIONS

❖ The “shuttle run with different directions” exercises developed by us allow for a systematic solution to the problem of developing endurance during the school year. The versatility of this tool depends on the following: firstly, compactness - because for its implementation a space of 10 to 20 m is needed, it can be used both on the sports field and in the gym; secondly, economical - because its implementation does not require a large amount of sports equipment.

❖ In addition to physical education classes, training was held 3 times a week to develop endurance. Regular exercise in this area allows you to maintain a sufficient level of endurance to ensure productive activities, improve the health of students, and successfully pass their endurance development standards. This makes it possible to make the development of endurance during physical education classes more orderly and meet the requirement of consistency in its formation.

❖ It was found that when the experimental group was given an exercise of 1500-metre running and continuous running for 5-7 minutes, the students' endurance improved significantly. The use of these track and field exercises in extracurricular activities throughout the year produces positive results in students.

CONCLUSION

The analysis of the obtained data represents that at present, the endurance of schoolchildren shows a significant decrease. Thus, the need to ensure an adequate level of endurance is a critical factor in the success of implementing the program's endurance development standards, yet not enough attention is being paid to the systematic development of endurance skills of schoolchildren in extracurricular activities.

The comprehensive physical preparation and functional status of 6th grade schoolchildren was determined. Based on the obtained results, the direction of the process of development of endurance in 6th grade pupils was determined.

It was seen from the methodology developed for the systematic development of endurance in extracurricular activities that for high-quality preparation for the standards of endurance development, shuttle running with different directions, running for 1500-metre, as well as continuous running for 5-7 minutes three times a week at least are crucial.

Pedagogical experience showed the high effectiveness of training using the test of shuttle running with different directions, running for 1500-metre and continuous running for 5-7 minutes in order to develop endurance in experimental group compared to other groups. It was found that the results of the experimental group that used the method developed by us were improved.

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