



STUDY OF STUDENTS' PHYSICAL ABILITY

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ABSTRACT

Students' health, physical development, and physical ability are a primary task of the Bulgarian state, school and family. Very important for its effective solution is the correct combination of work and rest, proper nutrition, body strengthening and regular physical activity, which are also the main components of a healthy lifestyle. The aim of this study is to establish the level of physical ability in 6th grade students. To achieve this goal, we have applied the test battery "Eurofit", using 8 out of the 10 possible tests. Based on the results of the tests and analysis, we summarize that the classes in physical education and sports in each age group are of key importance for the physical and mental growth of students. In the age group studied by us, the peculiarities in the development of the child's organism also have a significant influence on the growth. It is obvious that the classes in physical education and sports are not enough to reach high physical potential of children, so it is recommended for them to be engaged in out of class sports or activities.

Key words: physical ability, tests, Eurofit, sport in leisure time, physical education and sports, healthy lifestyle, age characteristics

INTRODUCTION

Students' health, physical development, and physical fitness are a primary task of the Bulgarian state, school and family. Very important for its effective solution is the correct combination of work and rest, proper nutrition, body strengthening and regular physical activity, which are also the main components of a healthy lifestyle.

The school subject "Physical Education and Sports" is defined as a purposeful pedagogical process for sports education and development of motor skills. Physical activity is the main form of mastering the inner and outer nature of a man leading to better quality of life. To assess the achievements, after systematic physical activity in the classes of Physical Education and Sports, various tests covering the level of development of the basic physical

qualities - flexibility, speed, strength, agility and endurance are used (1).

These tests are practical and are conducted as ongoing tests for not less than two PE classes at the beginning and end of the school year, taking into account the individual progress in student's achievements. The level of progress in the student's results within one school year is measured on the basis of the difference between the results achieved at the beginning and those shown at the end of the school year, as the change in their age for this period is not taken into account (2).

Good achievements require students' activity, family support and adequate training by the PE teacher. The combined work of these three parties would help to reduce hypodynamics in our society (3).

The long-lasting process of physical education and sports can be carried out successfully provided that the age peculiarities in students' development, the level of their training, the peculiarities in the development of their physical ability and formation of motor skills and habits are carefully taken into account.

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The love for physical culture and sports should be taught from an early school age. In the beginning, a multifunctional training of children and mastering the basics of the exercise technique is used. Greater difficulties arise when working with adolescents from 12 to 16 years of age. This period is characterised by rapid development of physical abilities and is favorable for purposeful activities in most sports (4).

An effective method for testing students' physical fitness is the 'Eurofit' test battery. It offers a practical series of tests for determining one's physical condition and is suitable for wide application on school-aged children. It was created primarily to assess students' real physical condition by giving a very good idea of their general motor abilities. The fact that 'Eurofit' makes it possible to compare motor skills between different populations in Europe is one of its most valuable qualities (5).

The comprehensiveness of the 'Eurofit' test battery gives us reason to assume that the results of the study conducted with 6th grade students will reveal not only the current state of their physical fitness, but also the existing gaps in their physical development.

METHODOLOGY

The aim of this study is to establish the level of physical fitness with 6th grade students.

To achieve our goal we set the following tasks to solve:

1. To apply the 'Eurofit' test battery.
2. To analyse the results of the testing and to draw the relevant conclusions and recommendations.

To study the participants, we chose and applied the 'Eurofit' test battery, using 8 out of the 10 possible tests. "Eurofit" test battery is suitable because it is a unified system for examining physical fitness and is applied in many European countries. The students were instructed before and during the testing. All requirements for standard testing and

measurement were met. The results were recorded in protocols and then processed.

The sequence for conducting the tests in the 'Eurofit' test battery is as follows:

Test 1. Flamingo Balance Test – single leg balance test on a beam.

Test 2. Plate Tapping Test - tests the speed of hands movement (touching up to two discs with your hand).

Test 3. Sit-and-Reach – flexibility test.

Test 4. Standing Board Jump – measures explosive leg power.

Test 5. Handgrip Test – measures static arm strength by using dynamometer.

Test 6. Sit-Ups – measures the endurance of the abdominal muscles.

Test 7. Bent Arm Hang - measures upper body relative strength and endurance.

Test 8. 10x5 meter Shuttle Run – measures running speed and agility.

Before the beginning of the test, the height and body weight of each student were measured and then the body mass index (BMI) was calculated.

The study involved 25 children (12 boys and 13 girls) in the 6th grade at the Private Primary School 'Thomas Edison' in Sofia, Bulgaria. The testing was conducted at the beginning and at the end of the 2018/19 school year through the 'Eurofit' test battery.

The results were processed with the Microsoft Pack software package, in particular Microsoft Excel.

For the purposes of the study, the students were divided into two groups: **Group 1** - children who attend only physical education classes (3 classes per week) without any additional physical activity and **Group 2** - children who practiced additional physical activities apart from the compulsory ones at school, including football, volleyball, gymnastics, basketball, athletics, water polo, etc. (**Table 1**).

Table 1. Distribution of the studied children to ones engaged in sports and ones not engaged in any sports

	Number of students (f)	Percent (W%)
Engaged in sports	15	60%
Not engaged in any sports	10	40%
Total (N)	25	100%

Table 2 presents students' distribution in gender.

Table 2. Distribution of the studied children by gender to ones engaged in sports and ones not engaged in any sports

Gender		Absolute frequency – number (f)	Relative frequency (W%)
Engaged in sports	Boys	7	28%
	Girls	8	32%
Not engaged in sports	Boys	5	20%
	Girls	5	20%
Total (N)		25	100%

RESULTS AND ANALYSIS

Table 3 presents the summarised average values of the results achieved at the beginning and at the end of the school year, divided into boys and girls engaged and not engaged in any sports, for the tests performed.

The best results for the given test are marked in bold.

In 8 out of the 9 tests covered, the best results were scored by girls engaged in sports.

In test 8 - 10x5 meter Shuttle Run, the boys engaged in sports gave a better result.

In test 6 – Sit-Ups, boys and girls engaged in sports showed equal results.

Although, students not engaged in any sports did not show a result better than the one shown by students practicing sports, we have to mention the improvement they showed. The students' results give us reason to believe that in the Physical Education and Sports classes work for increasing children's motor skills was purposeful.

Table 3. Mean values of the achievements at the beginning and the end of the school year for all tests by boys and girls

Tests		BMI (kg/m)	Test №1 (nos.)	Test №2 (gender)	Test №3 (cm)	Test №4 (cm)	Test №5 (kg)	Test №6 (nos.)	Test №7 (sec)	Test №8 (sec)
Students										
Engaged in sports	boys	18.1	2	12.1	19.2	148.6	23.4	21	9.7	19.9
	girls	17	1	11.2	26.9	167.3	26.6	21	28.7	21
Not engaged in sports	boys	20.3	4	13.5	16.1	124.5	20.8	17	3.6	21.3
	girls	17.1	2	14.4	26.1	157.1	19.3	19	14.7	21.5
\bar{X} of the class for the school year		18.1	2	12.8	22.1	149.4	22.5	20	14.2	20,9

CONCLUSION

Based on the tests and analysis of the results, we conclude that Physical Education and Sports classes in each age group are of greatest importance for the students' physical and mental growth and development. Physical Education and Sports classes provide the basic foundation for good physical culture, physical education and physical development that students should receive.

The results of the study showed that in the studied age group, the peculiarities in the development of child's body had a significant impact.

Boys and girls engaged in sports showed better progress in improving their motor skills.

The comparison results between the studied boys and girls showed advanced development with girls. Only in test 4 - Standing Board Jump the improvement in results with boys was higher - 24 cm against 10 cm with girls. Additional sports exercises, physical activities and tourism are needed for even

better results and better health. The curriculum in Physical Education and Sports takes into account the age characteristics of the students in order to show the best possible results.

Physical Education and Sports classes are not enough to reach the maximum potential of children, so it is recommended for them to be engaged in additional sports activities.

REFERENCES

1. Rachev, Kr. and col. Theory and Methods of the Physical Education NSA Press. Sofia, 2004.
2. Order №ПД09-1588 / 20.06.2019 of the Minister of Education and Science.
3. Nikolova, E., Marinov, B., Physical activity, school, family Bolid-INS. Sofia, 2002.
4. Fomin, N., Filin, V., Age Foundations of Physical Education. Medicine and Sports. Sofia, 1975.
5. Eurofit. European test of physical fitness. Council of Europe. Committee for the development of sport, 1993.