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## STUDY REGARDING THE USE OF FITNESS EXERCISES DURING MIDDLE SCHOOL PHYSICAL EDUCATION CLASSES

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**Abstract:** *In the current structure of Romanian pre-university education, primary school and middle school represent mandatory and free stages of education, ensuring elementary education, forming the children's personalities and giving them the knowledge and skills to stimulate their effective and creative relation to their social and natural environment, allowing the continuation of their education.*

*The middle school physical education class must combine the most representative and interesting games that would harmoniously develop the children's bodies, as well as develop a series of moral skills, such as a solidarity with their team's interests, defeating their own egotistical and brutal urges, taking responsibility for their own actions, will, tenacity, self-control, etc.*

**Key Words:** *Exercise, Physical Education, Pupils, Fitness.*

### INTRODUCTION

What is fitness, is there an age when we must think of creating a better fitness for ourselves, in what way we must act to get it? (ȘERBAN, D., 2006). Physical fitness has multiple aspects, it can mean the ability to perform various physical activities or it can mean performing great work without feeling fatigued, or feeling full of energy and vitality. It can also be correlated with health. (DRAGNEA, A.,1996). Physical fitness is not an exclusive trademark of athletes. Athletes are asked to reach a high fitness level, but regular people need only a few hours of walking or a few exercises to reach a right level of physical fitness. (CÂRSTEA, G.,1999). The continuous development of physical education and sports, the harmonious development, good health and multilateral training of youths are some of the goals of the Romanian educational system. (ZEANĂ, C.,1998). These tasks impose an improvement to the quality and effectiveness of physical education classes in all schools, aiming for the development of

the basic motor skills - speed, endurance, dexterity, strength, the teaching of the techniques of several sports, and the systematic participation in large numbers of students of all ages in competitions organized in education institutions. (DRĂGAN, I.,1998). The basic concept of the physical education curriculum consists in the permanent initiation and guidance of pupils to form in them a well-correlated system of knowledge, motivation, skills and habits in order to use systematically, consciously, independently the means of physical education (physical exercises, natural/hygienic factors), as well as to lead a healthy lifestyle, during their school years and throughout their entire lives. The pupils, after school graduation, must become aware that sports and physical culture are effective means for a harmonious physical development, disease prevention, strengthening and maintaining one's health, reaching a mental and physiological balance, perfecting one's fitness, etc. - all factors that ensure the longevity of the human race. (CÂRSTEA, G 1999).

## **MATERIALS AND METHODS**

*The purpose of this study was clear:* to offer all the tools, all the knowledge, all the motivation to effective programs that would develop the motor skills, making physical exercise a permanent priority, a life-long habit. Another component of the purpose of this research was to contribute to the improvement of the methods of teaching physical education for the seventh grade, more precisely to choose the most effective means and procedures to develop strength in children, putting in the lessons certain programs containing exercises that are accessible to pupils, to get closer to reaching the goal of permanent education. The systematic and organized use of programs containing drills with gradual loads can be dynamized with good and very good results, aiming for daring, superior goals, at the same time respecting the age particularities, and the training being conducted as a leisure time activity, not as competitive activity. Not in the least, the author aimed to create a good atmosphere during the middle school physical education lessons through the chosen drills, stimulating the pupils' creativity and emulation. Basically, through the programs the author is about to suggest, he is aiming to achieve one of the most important goals of physical education - the autonomous and systematic practice of physical exercises, regardless of age. Not in the least, the high

number of theoretical knowledge makes the subjects of these programs become interested on individualized programs according to their own possibilities and particularities.

*The objectives* of this study were that at the end of the research, the subjects would: *get positive results during tests, develop their strength in all body segments, develop their power, get theoretical knowledge on the characteristics of exercises for developing strength.*

The study contained the following points: the *study* of the syllabus and identifying the most effective means and procedures to develop strength at that particular age, the specific drills for each muscle action, the number of repetitions, an initial and final *assessment*, before and after applying these means and methods.

Starting from the theoretical arguments stated previously and from the experimental data in the professional literature, this study aimed to validate the hypothesis stating that *the creation and application of fitness programs, accompanied by an adequate number of theoretical knowledges can contribute to the accomplishment of the middle school physical education goals, and especially to the formation of the children's habit to independently practice physical exercises.*

The research was organized and conducted at the "Alexandru cel Bun" School of Bacau, Bacau County, over the course of the academic year 2018-2019, the subjects being the pupils of seventh grade A. The class participants were organized and were explained the research program. The group consisted of 24 pupils, 12 females and 12 males.

The activity performed during the physical education classes was according to plan, the only difference being the methods used to teach the gymnastics exercises, the weight drills, and the drills that influence the motor skills.

The class where the research program was applied respected the syllabus, but with a content created by the author. Over the course of the academic year, the physical education lessons proceeded with modules created by the author.

This approach allowed the author to make sure there are a higher number of repetitions for the drills, which became also more complex and varied.

At the author's disposal there were sets of dumbbells, elastic ropes, medicinal balls, gymnastics mattresses, benches with various inclinations, Swedish ladders, etc.

Obviously, the schedule of the proposed program was only partially respected, because the number of physical education classes was insufficient, and also because the material conditions were not optimal.

To accomplish the tasks of the study, and to capture as many aspects of the research as possible, the following methods were used: *the documentation method, the observation method, the testing method, the statistical method for analyzing and interpreting the data*

The research was conducted between October 10, 2018 - May 10, 2019.

The intervention consisted in applying fitness programs and physical exercises with weights during the two physical education classes per week that the pupils had in their schedule.

Before each complex of exercises, the subjects were presented the muscles and joints used in those particular movements. They were explained the breathing method (inspiration during the negative part of the motion and expiration during the positive part of the motion), the correct way of performing the drill, as well as the number of repetitions and the order of the drills.

## **RESULTS AND DISCUSSIONS**

The results recorded during the two tests (initial and final) were differentiated according to sex and analyzed. For each challenge, the author calculated the arithmetical mean, the standard deviation and the variability coefficient, the progress of the average values being represented graphically.

What follows is a discussion of the recorded results for each challenge.

### **1. Push-ups**

In the case of this challenge, one can see an improvement in the number of repetitions, in average by 2.62 in the male subjects, and by 1.54 in the female subjects. The recorded progress indicates the effectiveness of the proposed training programs.

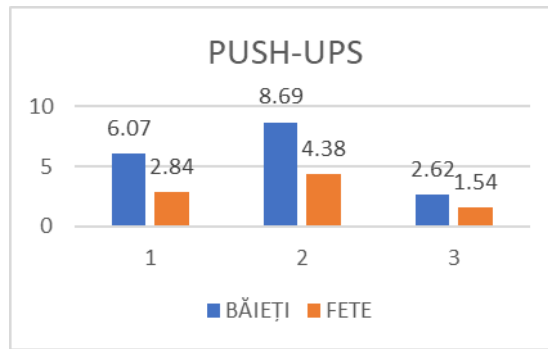


Figure 1. Progress - push-ups

## 2. Chin-ups

In the case of this challenge also, one can observe a positive progress, both in boys (by 2.23 repetitions) and in girls (by 1.15 repetitions). Moreover, one can also observe a decrease in the variability coefficient, which indicates that the progress becomes uniform, or in other words, the progress is independent from the psycho-anthropometric development that is specific to puberty and is exclusively caused by the training programs proposed by the author.

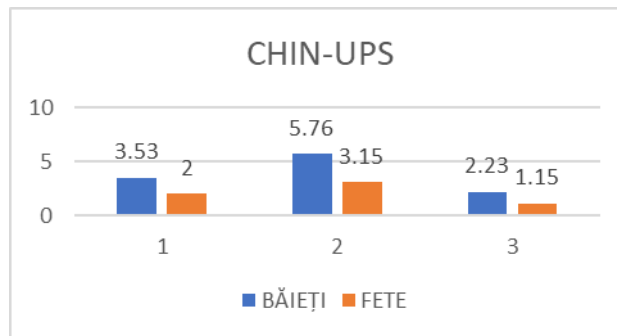
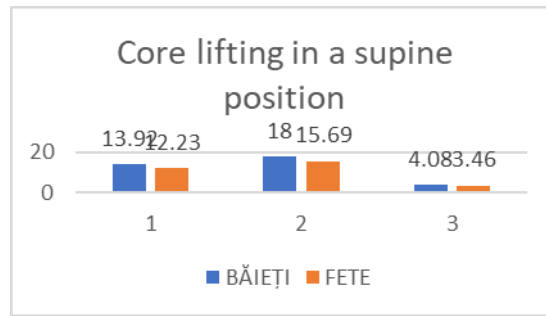


Figure 2. Progress - chin-ups

## 3. Core lifting in a supine position

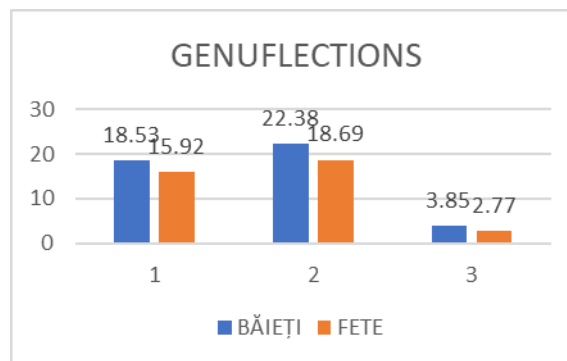
The effectiveness of the proposed training program is reflected also in the case of this challenge. Thus, in the case of the male subjects, there was an average progress of 4.08 repetitions, and in the case of the female subjects, there was an average progress of 3.46 repetitions. As in the case of the previous challenge, the homogeneity of the results increases, the explanation being the same.



**Figure 3. Progress - core lifting in a supine position**

The homogeneity of the results is particular in the case of this challenge, in the sense that in the male subjects, the variability coefficient decreases (the group becomes homogeneous), while in the female subjects, the variability increases. This phenomenon could be explained by the difficulty of the challenge and by the differences in endurance between boys and girls.

### 5. Genuflections (30 sec)



**Figure 4. Progress - genuflections**

In the case of this challenge also, the progress is greater in the male subjects (3.85 repetitions) compared to the female subjects (2.77 repetitions). The effectiveness of the training programs is reflected in the improvement of the variability coefficient, the final groups being very homogeneous.

### 6. Standing long jump.

In the case of this challenge, the progress is close in values between males and females. Thus, the male subjects recorded an average progress of 5.16 cm, and the female subjects recorded an average progress of 5.08 cm.

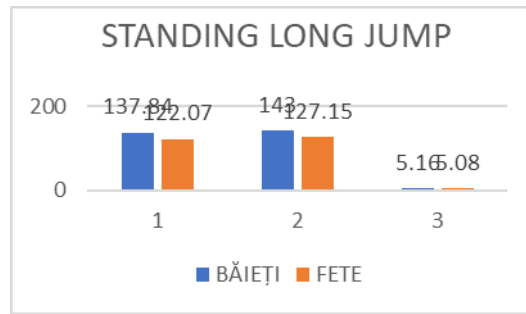


Figure 5. Progress - standing long jump

Here, the variability coefficient remains approximately constant, the males and females remaining homogeneous both initially and finally.

### 7. Ball throwing

The results recorded during this challenge that aimed to indicate the development of power confirmed the effectiveness of the applied intervention program, the average progress being of 1.08 m for the boys and 0.92 m for the girls. Moreover, the homogeneity of the two groups increased during the final testing, which validates the initial hypothesis.

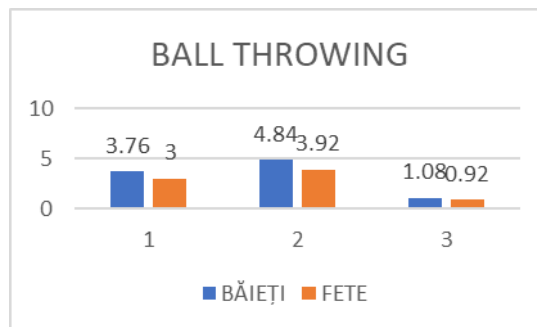


Figure 6. Progress - ball throwing

## CONCLUSIONS

The data analysis has shown that the initial hypothesis was validated, thus making way for the following conclusions:

The systematic and varied application of fitness programs and means lead to the improvement of the pupils' motor skills. Strength is a perfectible motor skill, with good results under the conditions of specific drills designed to develop it, aimed to be varied, working on muscle groups, together with complexes aiming to develop strength. Good results were recorded in regards to strength in all segments - arms, pectoralis major, quadriceps. The relative homogeneity during some of the control challenges indicates a variability in the subjects' real potential, which imposes a particularized approach,

maybe according to value. The diversity of the exercises was intended to challenge the boredom of the pupils, or their refusal to practice them saying they can't do it. The exercises must be dynamic, stimulative, focused on attracting the subjects. The fact that the author has made sure that the theoretical knowledge is also increased has led to some great results during the theoretical test; this constituted a basis of knowledge that eventually will form the base for the independent practice of physical exercise.

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