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STUDY ABOUT GROWTH OF ATRACTIVNES IN PHYSICAL EDUCATION CLASSES BY USING MEANS FROM GYMNASTICS IN SECONDARY SCHOOL

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Abstract
In this paper we want to present the outcomes of an experiment carried out during one school year within secondary school students from the eighth grade. This experiment sought to observe whether the replacement of general physical development exercises, that are compulsory within each physical education lesson, will result in greater attractiveness for students of this age.
Keywords: *gymnastics, secondary school, physical education, physical exercises.*

INTRODUCTION

The process of teaching physical education is a complex and active process involving the student’s direct initiative and responsibility in their own preparation. As part of the physical education, an active pedagogy is formed regarding the behaviors that promote collective labor relations, moral behavior and character traits claimed nowadays by social pressure regarding preparation and training of young people.

Today, no one disputes the role and importance of physical education and sport for both boys and girls, and the effects are not limited to the body, they influence the whole intellectual, social and moral personality.

Physical education is mainly aimed at the harmonious development of the body, strengthening health and cultivating physical qualities (European Commission, 2007).

The lesson is designed as an independent teaching entity, “a cell” that underlies the educational process and contains all the elements and characteristics of the process. Basing and directing the other variables’ configuration remain the purposes and objectives of the lesson (Albulescu I., 2000).

Physical education lesson differs from other school lessons in content, structure, methodology, dynamics, space and specificity of the learning process. The regularities of learning are specific; they aim at developing motor abilities and acquisition of knowledge in the practice of physical exercises and also to educate the motor and moral-volitional qualities of the body.

In the specialized literature there are many definitions found that have tried to highlight what is the lesson. It is a pedagogical microstructure which brings together, in a functional unit, all the actions and means involved in the educational process in one hour of school (Oprea O., 1979). From another point of view the lesson is a teaching action unit which tends deliberately towards a certain goal, under well-defined conditions, using appropriate means to reach appropriate conditions for the intended purpose. (Cerghit I., 1983).

Continuous use of the same standard forms (structures) hinders lesson objectives and active engagement of students in learning. When the form is given the main role, “formalism" appears in building the lessons, where the objectives and content are subject to various schemes and abstract shapes. In this case we give importance to the scheme, to the form, detrimental to the goals which obviously has influence on the possibilities of creative manifestation process (Iconomescu T., 2013).

One of the central issues and always current in the pedagogical process is the ability of teachers to achieve their objectives through the use of methods and means to stimulate interest in the participation of those involved in the learning process.

The attractiveness of the lesson is a basic problem of efficiency. The way in which this aspect is realized depends on the interest and actual participation that has to be conscious and active for the students. They are giving their full mental and physical availability for the planned activity.

These aspects of the lesson contribute greatly to the pupils' determination to love physical exercise and manifest desire to practice independently.

The attractiveness of the exercises can be done by their content with high, rich and interesting emotional level or by providing an ongoing spirit of competition amid a pleasant atmosphere - particular attributes to races and competitive sports.

For the teacher to achieve this requirement he must continually seek to improve the methods and means by completing them with newly acquired exercises based on experience or taken from literature.

Complexes of exercises are the main way to implement the harmonious general physical development of the body and are build depending on influences, tracked localizations, facilities (objects and devices)

Selective processing exercises within a complex can be "classic", build on fast rhythm and relaxation, summing successively or alternately.

One such complex includes stretching and elasticity for the arms, torso, legs, interspersed or followed by contraction exercises for developing muscle strength completed with breathing and relaxation exercises or intercalated.

This type of complex is most often used in the physical education lesson. At the same time, innovation in teaching can guide the application of other means that are found within the physical activity sphere of the physical education lesson. For example, stretching exercises.

Such complexes include selective processing exercises that consist of two or more phases:

1. Easy-stretching = stretching, maintaining and recreation.
2. Stretching = contraction, relaxation, extension.

Stretching is a way of musculoskeletal analytical processing involving strictly controlled extensions, passive or active, of some muscle groups or muscle chains. It is expressed as a movement by maintaining positions on well-defined periods of time, during which part of the muscles are stretched and the others are contracting to stabilize and secure the placement of different segments.

The term comes from English, signifying an extension and maintaining a certain position of a segment in a short period of a few seconds to gradual stretching of a muscle and its preparation for a specific effort that will be subjected to. In sports it has gained a broader meaning that of "a complex of stretching exercises, with the ability to improve the body's flexibility and mobility."

Stretching is a scientific method of stretching the muscles derived from hatha yoga, but equally from the classical ballet and gymnastics.

Stretching is addressed to all, regardless of age or gender, physical training or special skills for sport. It can be practiced anytime, anywhere, requires no special equipment and is easy to learn.

THE RESEARCH HYPOTHESIS was the possibility of using stretching type exercises during physical education class with students of the 8^{th} grade, as an alternative to the traditional general physical development exercises, that will increase its attractiveness and thus the registered physical training results will be higher.

RESEARCH METHODS

The Subjects: The experiment took place in the Secondary School no. 18, from Galaţi, during the school year 2010 – 2011. In the experiment, 49 students from the 8^{th} grades were involved. Of these, 24 students were the control group and 25 students were the experimental group.

Research methods used in the research were:

1. Pedagogical experiment that intervened on the programming, planning and conduct of physical education classes in eighth grade
2. Observation method was used by observing students' behavior at all times during education classes. The literature emphasizes that the observation consists in recording the data and findings that are in our interest, as shown in their natural mode of expression without intent to modify. The researchers wait for the phenomenon to occur so they can capture it. Observation must be objective, continuous and systematic. The data is recorded, classified, processed and conclusions are formed. The observation was carried out in the school year 2010 - 2011 when 68 lessons were observed in the two classes from the 8^{th} grade. From the observations, the purpose was if he students were receptive to these new ways of working the joints and muscles, if they have a suitable conduit and are interested in the proposals to improve their own performance and their response to all kinds of situations for which they were requested.
3. The statistical method pursues two directions, namely: to establish significance, which means that the relationship or difference is reliable and that the experimenter can expect it to appear again if the study is repeated; to evaluate the significance of the results, namely if they have consequences. Using statistical means for testing differences between groups can determine whether these groups

are significantly different but also we can know the degree of association between dependent and independent variables and the degree of difference between the groups. Student Pairs and Student Independent Tests were used, conducted by SPSS 2.0 statistical program.

4. Testing method followed testing of students involved in research using tasks found in the national evaluation system for this age level. The tasks were designed to show that significant progress has been made in the general physical preparation. These tasks were: 50m speed running, long run in moderate tempo, 800m for girls and 1000m for boys, raising the torso while lying on the back, raising the torso while lying face down, jumping from the spot, ball throwing.
5. Graphical and tabular method consisted in gathering and recording the results obtained from initial and final tests and transforming them into graphs showing progress during the experiment.

PROCEDURES

The experiment consists in using stretching programs, introduced in an organized manner in the first part of the lesson – for selective processing of the locomotor system and in the rest intervals between exercises that address the themes from the lessons.

Using these programs aims to improve physical education classes in order to increase motor capacity of the students and to instill the desire to practice this type of exercise independently.

For this purpose, we elaborated three basic stretching programs used in the third stage of the lesson and specific programs for subjects in athletics, sports and gymnastics.

Since September 2010, in the lessons from the experimental class stretching programs were introduced, within the linker to influence the selective locomotor system.

Each program was designed out of ten exercises for the contraction method – relaxation – extension, having a length of about eight minutes and the time for each exercise being approx. 25 seconds, with 2-3 seconds breaks between reps.

Selection and systematization of these exercises in a program was based on the particularities of the students and had the following aspects:

- the suggested exercises address all muscle groups;
- the program starts with light exercises, gradually increasing the amplitude of joint load;
- to respect the principle underlying stretching: contraction - relaxation - extension.

To avoid monotony and create a heightened rivalry among students, a work program was exercised for 8 lessons, after being replaced with another.

Throughout the study, both the control class, and the experimental one, conducted one hour of physical education per week, according to the curricula.

These stretching programs which we applied throughout the experiment, being followed by pictures and descriptions can be presented as an auxiliary material of this article.

RESULTS AND DISCUSSIONS

In order to create a good image on the dynamics of physical training we tested 9 control samples provided in the evaluation and assessment system, one of which is gender specific.

Initial and final test results for girls, for the control and experimental group, are presented in Table 1.

Table 1 The results recorded by the girls participating at the experiment at physical preparation

GROUPS / TASKS	GIRLS			
	Control group (n=13)		Experimental group (n=10)	
	T.I.	T.F.	T.I.	T.F.
Speed run 50m (sec.)	**9,31**	**9,12**	**9,23**	**8,76**
Endurance run (min.)	**5,03**	**4,47**	**5,04**	**4,25**
Jumping from the spot (cm)	**147,15**	**152,77**	**147,90**	**163,10**
Throwing the ball (m)	**16,60**	**18,28**	**17,46**	**22,51**
Raising the torso while lying on the back (rep.)	**17,31**	**19,00**	**16,80**	**23,20**
Raising the torso while lying face down(rep.)	**17,46**	**20,54**	**17,40**	**24,80**

Analyzing pooled data from the table above we can see that the values recorded at initial testing confirm the existence of a close level of education between the two groups of girls who were included in the pedagogical experiment. The differences between them appear clearly in the final tests.

As compared with the initial results, the control group made significant progress in most tasks that were tested($P<0,01$or $P<0,001$).There is evidence from which, however, progress is not significant ($P> 0.05$) as speed running, pull-ups on the gymnastics bench and lifting the torso from lying on the back. Regarding the experimental group, they achieve significant increases in all tasks at the final testing ($P<0,001$).

Table 2 shows also the initial and final test results recorded for boys for the control and the experimental group that was part of the teaching experiment.

Table2 The results recorded by the boys participating at the experiment at physical preparation

GRUPE / PROBE	BOYS			
	Control group(n=11)		Experimental group(n=15)	
	T.I.	T.F.	T.I.	T.F.
Speed run 50m (sec.)	**8,39**	**8,07**	**8,23**	**7,78**
Endurance run (min.)	**4,56**	**4,42**	**4,50**	**4,27**
Jumping from the spot (cm)	**164,73**	**173,09**	**165,87**	**191,13**
Throwing the ball (m)	**27,46**	**32,18**	**26,87**	**37,97**
Raising torso lying back (rep.)	**18,27**	**20,45**	**18,07**	**30,47**
Raising torso lying face down (rep.)	**19,00**	**21,55**	**19,13**	**27,53**

From the analysis of recorded data it can be observed that the values recorded on initial tests confirm a very close level of education between the two groups. The same for boys as for girls, the differences obviously arosein the final tests.

Reporting with the initial results, the control group recorded significant progress at the majority of the tasks (P<0,05 - 0,001).The only trial that progress was not been demonstrated statistically was endurance running where P>0.05. The experimental group showed significant improvement at the final testing.

It can therefore be appreciated that the students from the 2 classes managed to improve the physical preparation level by participating at the physical education classes, but in the meantime, the students from the experimental group recorded a more obvious progress, surpassing their fellow class colleagues at all motor tests.

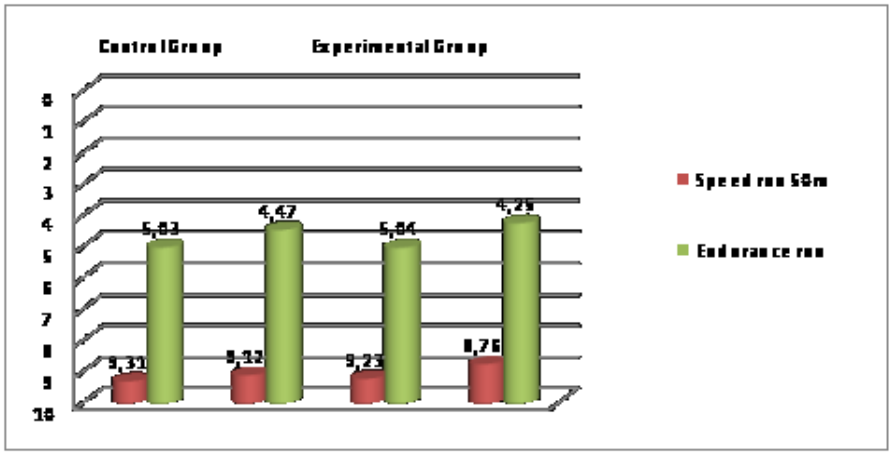

Figure 1 – Results for the girls at the running trials

From Figure 1 it can be seen that the recorded results at the running trials were superior to the results reported by the control group. The graphical representation allows us to analyze the dynamics of the results obtained at the running trials between the two groups and also for each group individually.

The fact that the control group achieved a performance improvement at final testing is a natural thing that is due to the educational process. Improved results from the experimental group at the final tests are attributed to the different muscular work realized. The superior performance was achieved due to the fact that the participation was conscious and active.

Figure 2 presents the results that were achieved by the groups of boys at running trials.

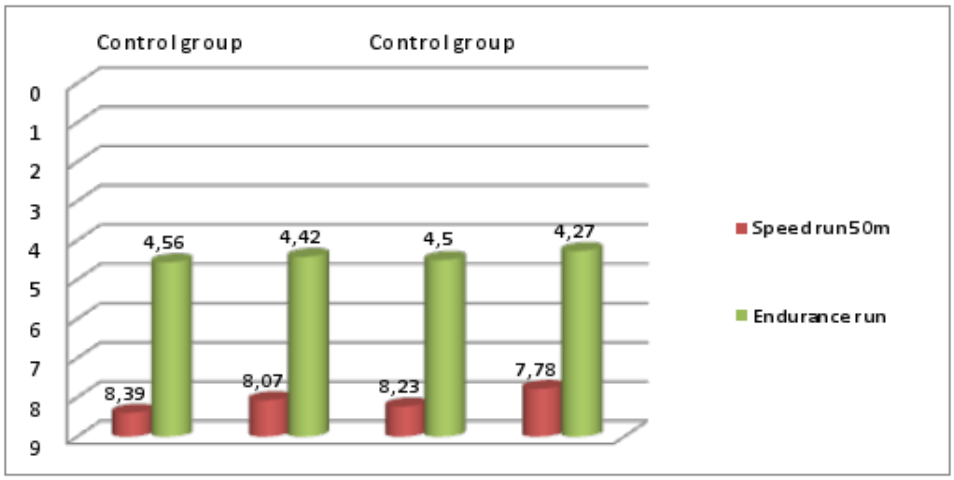

Figure 2 – Results for the boys at the running trials

From this figure it can be seen that the results for both groups at the final test were superior to the initial ones. By comparing the results it can be observed that the experiment group realized superior performance.

Thus, the speed running performance was 7.78 seconds and the long duration run with moderate tempo was 4.27.

The results recorded in tested trials which aimed at developing strength qualities for torso, arms and legs are presented for boys and girls in figures 3 and 4.

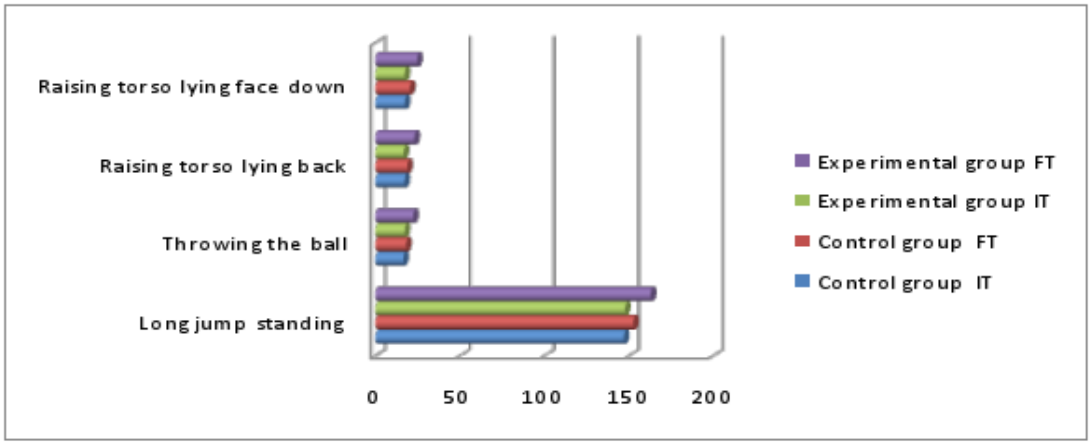

Figure 3 – Results for the girls at strength trials

From Figure 3 it can be briefly seen that at the initial tests the results for both groups were close, which confirms the equivalent level of general physical preparedness among students of the 8th grade.

Significant differences are observed in the experimental group, represented by purple, which in final testing achieved superior results compared to the control group, represented in red.

As with boys and girls the results recorded at the final tests had superior values for both groups subjected to the experiment. It can be stated that regardless of how the method was applied during the physical education classes, the students managed to improve their strength qualities.

By comparing the results between the groups, it can be observed that the experimental group who followed the selective processing exercises of the locomotor system, including stretching exercises, recorded far superior results comparing to the control group, which prepared traditionally.

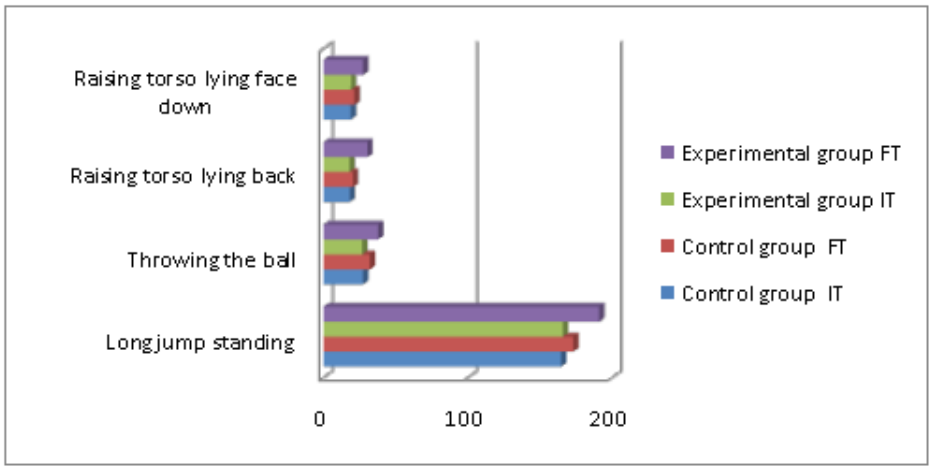

Figure 4 – Results for the boys at strength trials

CONCLUSIONS

Analyzing the results obtained at the tests for the physical preparedness of students in relation to initial testing, both the control group and experimental group recorded progress. However, students in the experimental group showed greater progress and with higher values in relation to the control group.

Using stretching type physical development means in physical education lessons have been well received by the students. This can be a very effective alternative to selective processing exercises of the locomotor system realized with traditional exercises that are standardized and somewhat boring for pupils.

In the current context of development of our society and the level of empowerment for today's youth, the use of varied and diversified means was a way to increase active participation and conscious desire in the lessons from the study.

Participation in physical education classes has become more attractive because students welcomed stretching exercises and even expressed a desire to practice them independently.

Not being very demanding, the stretching exercises can be performed successfully by all students, even by those with low level general motor skills.

In this study, we started from the hypothesis that the use of stretching exercises in the complex of selective influencing of the motor system will increase the motor capacity of students by increasing the attractiveness of the physical education classes.

The experiment proved that the hypothesis was valid. This leads us to say that these new ways of working muscles and joints, introduced in the physical education class can be a viable alternative to the harmonious development of students for this age level.

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