STUDY REGARDING USE OF STRETCHING MEANS TO INCREASE THE DENSITY OF PHYSICAL EDUCATION CLASSES IN SECONDARY SCHOOL

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Abstract
In this paper we present some of the results recorded in an extensive research which followed the use of means in the gymnastics at all time points of physical education class. Favorable effects of stretching type exercises used in general physical training in sport can be used with a favorable effect in the physical education curriculum. Therefore we tried to use these means in the lesson topics to maintain the body in muscle tonus from one iteration to another. On the other hand we watched as through the proposal of this type of exercise, in work breaks, to contribute in increasing the workload of students, a fact that lead to increased motor density of physical education lessons.
Keyword: *physical education, gymnasium, gymnastic elements, students, motor's density.*

INTRODUCTION

Physical education was, is and will remain one of the most attractive disciplines, due to its type heuristic methodology and its emotional character. Its many effects on the human body have a favorable influence of the human being growth and development and leads students to place it in the top favorite disciplines. (Torje D.C., 2005)

In terms of modernization and diversification of education, traditional education based on the frontal method of knowledge transmission, skills and abilities no longer manages to cover the large volume of tasks given by the dynamics of social development. The leap into a new vision, dynamic, active, creative, is today an issue on the agenda, imposed by objective reality (Badiu T., 2003).

Combining frontal work with differentiated and individualized work makes possible continuous verification of all students, an immediate confirmation or refutation of students response, conditioning transition to the next stage of learning physical exercises, knowing that it is harder to correct a motor skill consisting wrong, than forming a correct one (Raţa G., 2004).

Currently, around the world, there is a strong current of "return" toward physical education. Running, throwing, jumping, doing a daily maintenance program, all of this does not mean a sport, but using the means of physical education in order to maintain a high tonus, or simply for recreation and relaxation (Teodorescu L., 1989).

Upgrading school physical education teaching can not be done easily by adding new data, but by restructuring the entire contents, by redefining traditional notions and introducing new methodologies, corresponding to scientific paradigm (model, example) regarded as its double aspect, integration and differentiation, with fundamental and applicative character (Bratu I., 1982)

Another direction orients physical education lesson toward sport specific atmosphere. The presence of certain elements of content specific to sports, the exact methodology applied in the development of motor skills (specifically quantified drive systems, control of results, etc.), orientation of training process in accordance with the specifications of specialized federations, competitions, competitive spirit are just some of solutions that, consistently applied, explains the concept of physical and school sports education (Teodorescu L., 1989).

Thanks to its multilateral influence on the body, gymnastics represent the best mean for maintaining health, for the appropriation of elements of performance gymnastics and for providing physical support required to practice various sports, from infancy to old age.

From the study of literature review, we understand that in professional sports are used means of gymnastics such as stretching methods, for heating body and post recovery effort.

This method allows mobility training simply and efficiently, and the principle on which it is based is the contraction - relaxation - stretching of muscle groups.

In practice, these tools have been applied occasionally in sports ensemble lessons and we got a positive feedback from students. Therefore we wanted to study whether systematic application of these new tools in physical education lesson, will result in increased effort capacity of the students, to more accurate and faster

appropriation of motric habits and skills, and therefore increase efficiency of physical education lesson, based on increasing the workload of students.

Some specialists consider that the means to increase muscle suppleness known as "stretching", have as a basic principle muscular action in three steps: muscle contraction, relaxation and stretching. Usually, mobility is associated with a good physical training, coordinated movements and is associated with a well developed musculoskeletal system (Dragnea A., 2002).

Within these, elasticity of muscle has an important role because in various exercises performed, muscle contraction begins before stretching, ensuring relaxation of antagonists. Muscle elasticity can be changed in a greater extent by the influence of neuropsychological processes of muscle relaxation and stretching exercises.

For the purpose of physical education lesson be fully achieved and its efficiency to rise to higher indices, it is resolutely necessary to ensure three basic indicators. These indicators should be considered, regardless of the type of learning objectives and these are optimum density, the variety of used means, and attractiveness of working solutions proposed by the specialist.

Effectiveness of physical education lesson must be assessed by the quality and quantity of effort students during it. Quality of lesson can be appreciated according to its use of the allocated time.

Density is considered by some experts as the fourth parameter of the physical effort, on which depends influence on the ability of the human body effort.

In the teaching process there are several types of density, depending on the issues that are followed during lessons and the ratio of time requested by them. Thus there are: pedagogical density, which refers to the time which the teacher uses to explain and demonstrate, and motor density - the time spent by students for practice.

THE RESEARCH HYPOTHESIS was the assumption that the use of means specific to basic gymnastics, i.e. exercises of physical development, generally free (stretching type) within moments of pause during exercising in learning units will generate an increased volume of physical activity of students. Through this increased volume of work, it will grow motor density within lesson, with positive effects in terms of the educational process.

The hypothesis is a supposition stated on the basis of known facts, on certain links between phenomena that can not be observed directly, or on the essence of phenomena, the cause or the internal mechanism that produces them; it is a provisional assumption, formulated on the basis of existing experimental data at one time or based on intuition or impression.

RESEARCH METHOD

Subjects: The experiment took place during the school year 2010 - 2011. For the experiment were selected two classes of the Secondary School no. 18 from Galati. Students participating in the test were pupils of grade VIII. The total number of students was 49, of which 24 students were the control group and 25 students were the experimental group.

We used the following research methods:

- Studying literature review; from the literature review data it resulted that in Romania have been taken and are being taken further researches aimed at improving the instructive - educational process in physical education discipline. Authors who have addressed this issue in their work, does not mention whether these new ways of working muscles, used in sport training with good results, also have the same applicability in physical education lesson;
- Pedagogic experiment by which intervened on the programming, planning and conducting of activity from physical education lessons in VIII grade;
- Chronograph methods (timing) used to determine motor and pedagogical density, and consists in recording the lesson, simultaneously with recording effective work time of a student and time spent by the teacher for explanations, methodical instructions or to organize material basis in accordance with the proposed theme;
- Statistical method, which aims primarily 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 assess the importance of the value of the results, namely whether or not they have a consequence. Using statistical means for testing differences between groups, we can determine if these groups are significantly different, but equally we know the degree of association between dependent and independent variables and the size of difference between groups;
- Graphical and tabular method consists in gathering and recording the results obtained at the initial and final tests in tables and transforming them into graphic showing the progress during the experiment.

Procedure: The evolution of oscillating-ascendant effort in lesson meets physiological requirements on solicitation of body to effort and creates adaptation condition of the body functions to solicitations, guarantee of increasing work capacity.

The optimal density is achieved mainly through the organization of the lesson, frontal or in small groups to ensure active participation and permanence of all students, the time of practical work being used fully and in the most judicious way.

For this it is necessary to use a large sports material, allowing all students achieve through practice of a large number of repetitions. Removing "downtimes", shortening breaks, rational chaining of themes, using of methods, procedures, exercises, teams that can provide workload and intensity of effort consistent with the objectives, are some of the measures that ensure their effectiveness.

In the intervals of rest, after the use of means to achieve the goals of learning units, we used stretching exercises, thus turning moment of rest in active rest - which ensures a good lesson density, a higher concentration of students' attention, at the same time providing a high physiological support.

Choosing and applying stretching exercises in passive break was made depending on muscle groups targeted and required by sport test, and by the motor routes related to it.

In handball themes, the stretching targets especially the muscles of the arms, chest, shoulders and posterior thigh muscles.

During the lessons with football topics, we selected exercises requiring musculature of inguinal region, hip flexor muscles and calf muscles.

In lessons with gymnastics themes, we used exercises that require the musculature of the neck, abdomen and back.

Breaks active rest between repetitions, contests, motor games within the themes of athletics have focused on exercises for calf musculature, thigh and abdomen.

Number of exercises used within the range of rest of the motor structures, that solve issues of lesson, was varied depending on the number of learning activities, about 2-3 exercises within each theme.

Stretching programs consisted mainly on stretching - holding - relaxation exercises, duration of each period being about 15 sec.

Throughout the study, both the control group and the experiment have performed one hour of physical education per week.

These stretching programs, which we applied during the experiment, accompanied by pictures and description are given in paper Annex.

RESULTS AND DISCUSSION

The efficiency of the training process is given by the ratio between results and consumed resources. Assumed resources express the didactic time necessary to attain objectives (Dragnea A., 1984).

Getting results in learning motor abilities or improving motor skills must take into account the dynamics of effort. Motor density lesson, i.e. the ratio of the volume of work and its effective time within compulsory school lesson program is considered good when it reaches 60% - 65%.

During the school year, have undergone observation a number of 28 physical education lessons. The research aimed to achieve a higher number of density protocols. These density protocols were made by timing actual work time of students.

During an hour class were timed two students, a boy and a girl, both in the control and experiment group. For the research to have a random character, timed students were permanently change at every lesson.

The research sought to include a greater number of hours within a school year to be able to follow application of gymnastic exercises of stretching type within as many lessons with learning themes and strengthening motor skills in several sports.

Also, the application of these means of gymnastics was done both in indoor environment, in the case of the cold season, and in the external environment, for the warm season.

By centralizing all protocols of density achieved, we attempted an average of the percentage of actual work, passive and active break, in order to assess whether the use of means specific to gymnastics within the lessons is a factor leading to increase their motor density.

The results of this centralization are expressed graphically in Figure 1 and Figure 2 - for the groups of girls, and Figure 3 and Figure 4- for the groups of boys.

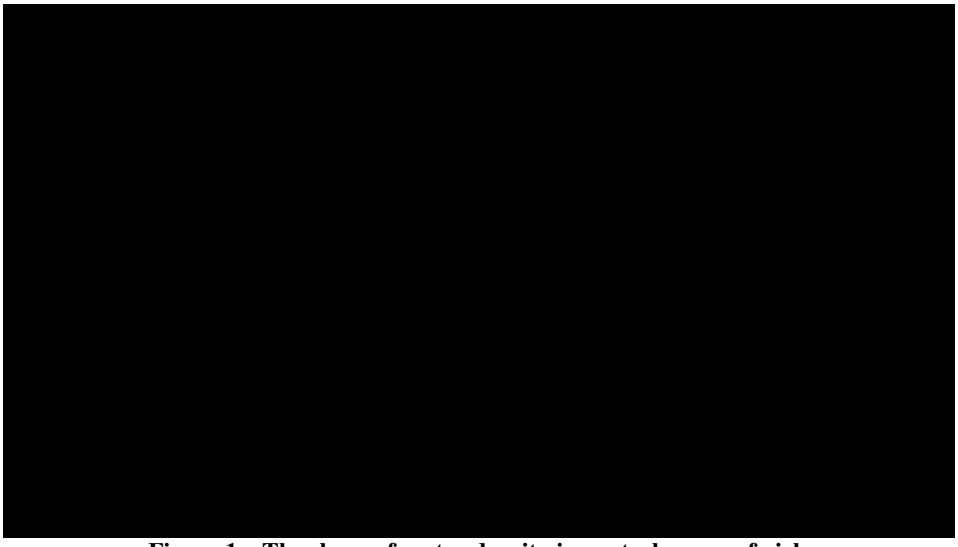

Figure 1 – The share of motor density in control group of girls

As can be seen from Figure 1, the experimental group had an average of working time by 46% of the total time of lesson. The break for the return of organism within the exercising was divided into active break with an average of 18% and passive break with an average of 36% of the total time of the lesson.

It can be appreciated that, in terms of motor density, the control group showed a good value, which is placed at more than 60% of the total lesson time. This implies that the means used were appropriate and effective.

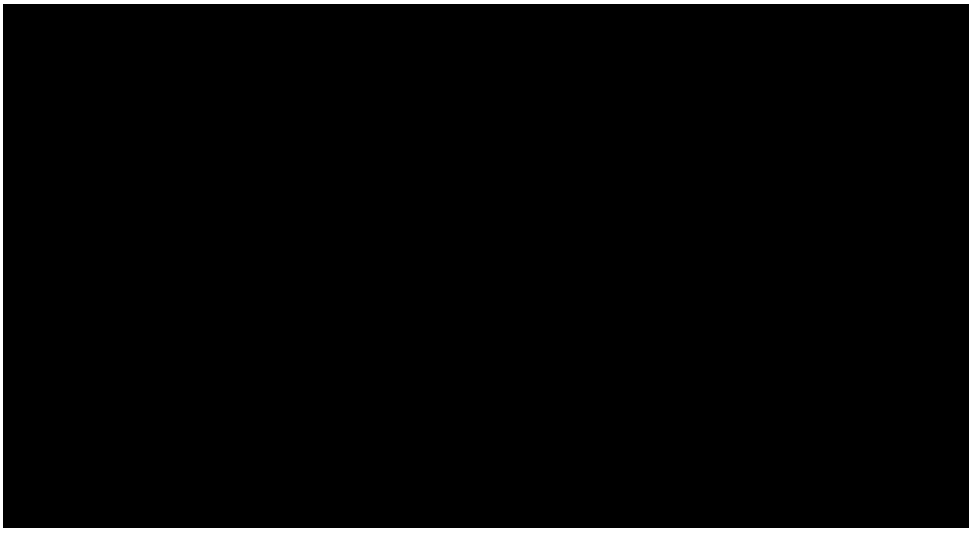

Figure 2 – The share of motor density in experimental group of girls

From Figure 2 it can be observed which are the values recorded for the share of density in the experimental group.

Within this group, the percentage value of the actual working time was 48%. The break was divided into active break, whose value was 35%, and passive break whose value was 17%. It can be easily noticed that by centralizing density protocols for the experimental group was obtained a value of student working time over 80% of the time lesson.

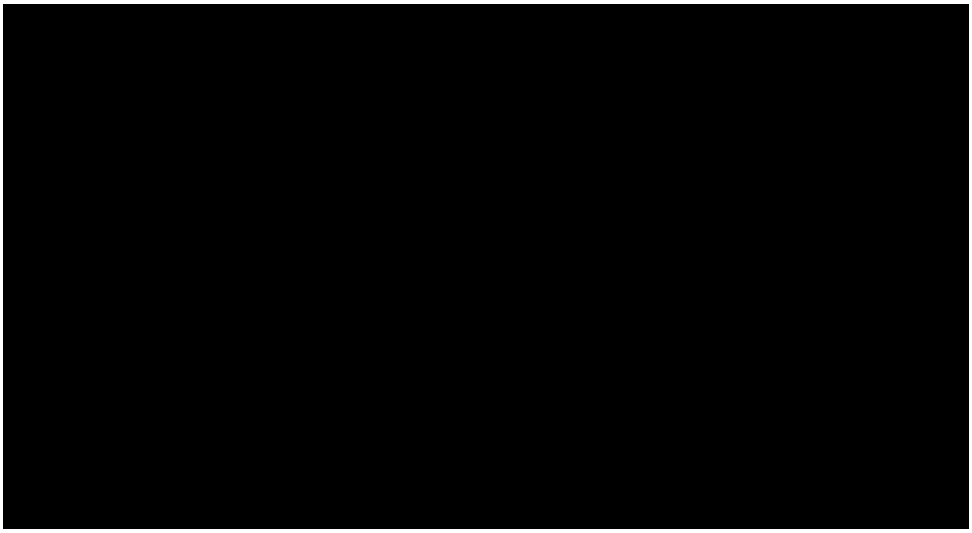

Figure 3 – The share of motor density in control group of boys

The same analysis was conducted for groups of boys. From Figure 3 it can be seen that the control group used for actual work 46% of total class time. The passive break had an average of 31%, while the active break was 23% of total lesson time.

With a total percentage of 69% motor activity with control group of boys, we appreciate that means proposed in lessons were well selected and proposed in an efficient manner that kept the staff engaged in activity in most part of the lesson.

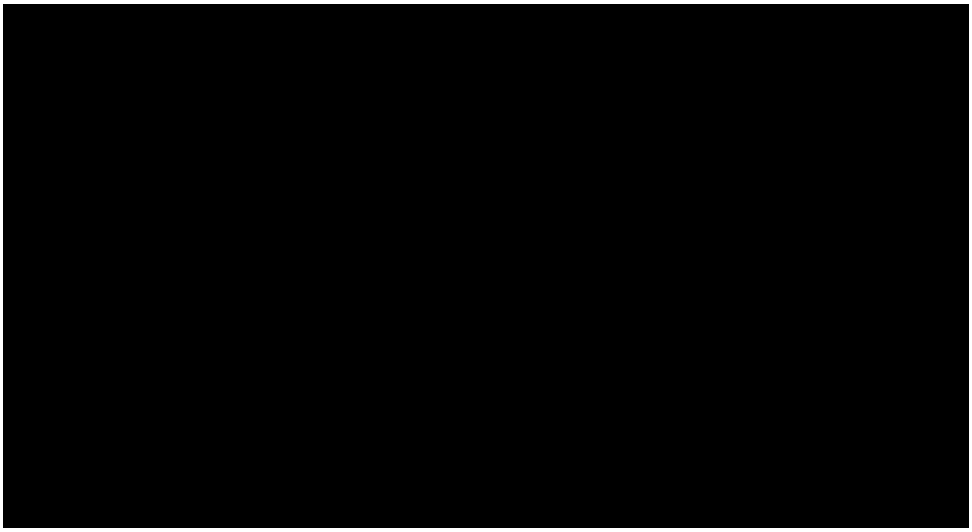

Figure 4 – The share of motor density in experimental group of boys

A similar analysis was held also for density protocols recorded for experimental group of boys. The results presented in Figure 4 indicate that working time for this group was 48% of the total time of the lesson.

The volume between active and passive break was significantly in favor of active break. This is because within this group were applied specific means of gymnastics, stretching type, which not being requesting, had intended to keep students active. The average time allocated to active pause registered a value of 36%, while the average value of time allocated to passive break was only 16%.

From this perspective, with a percentage of 84% of the total time of the lesson, motor activity for experimental group of boys had a positive effect on students involved.

CONCLUSIONS

The experiment showed that the hypothesis from which we started was true. This leads us to affirm that these new ways of muscle and joints processing introduced in physical education lesson may be a viable alternative to the harmonious development of students for this age level.

The use of means specific to gymnastics, stretching type, led students to a more efficient use of lesson time by increasing its density, since passive break volume was decreased.

By introducing stretching exercises within the range of rest, "downtimes" from the lesson were eliminated, fact that has led to more efficient lesson. Not being exhausting, stretching exercises can be performed successfully by all students, even by those who have a lower level of general motor skills.

Using these stretching programs specially designed for school activities can improve muscle flexibility and joints mobility, thus leading to increased effort capacity of students, and thus to achieving the objectives of school physical education. Introducing stretching at major classes (VII-VIII) of secondary school, after being appropriated general basis of movement (bending, rotations, extensions, arching, twisting, etc.) may be an alternative to traditional lesson, that responds to requirements of a modern lessons adapted to the new.

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THE RESEARCH CONCERNING THE INTENSITY OF THE LINEAR CORELATION APPLIED AT THE SELECTION OF THE FOOTBALLERS

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Abstract: This paper presents a comparison between the F.C. Otelul Galati football team players and the F.C.M. Dunarea Galati team players regarding the selection of the players between 6 and 8 years old. The purpose of this research consists in to identify the specific methods and means concerning the efficient achievement of the selection process. The statistical methods of the research used are: the „Pearson Correlation Coefficient", the „Coefficients of Variation Method" and the „Least Squares Method" used for to reflect the architecture of the best trend model and the intensity of the corelation between 30 m dash and the long jump. The statistical analysis expresses the effectiveness of the methods and means used for the selection of the footballers, because the results of the research were positive, the progress between the F.C. Otelul Galati team players and the F.C.M. Dunarea Galati team players being visible.

Key words: intensity, correlation, selection, football.

INTRODUCTION

The selection in football of the players between 6 and 8 years old musts to account by the rhythm of somatic growth and psycho-driving rise of the footballers. Also, the selections must to permanently confront the inventory of quality for each age, with the requirements of the performance in football.

The state of the art in this domain is represented by the essential research belongs to Radulescu M., who presented methods and means for a optimal selection [6].