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The Use of Aerobic Gymnastics as the Means of Realizing the Objectives of School Physical Education Specific to High School Education

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Abstract
Introduction. Aerobic gymnastics has a great influence on the locomotor system because the exercises used play an important role in shaping the shape and structure of our body, especially on the component parts of the locomotor system: bones, joints, muscles, ligaments and tendons.
Methods. The use of the means and methods of aerobic gymnastics in the physical education lessons of the school will lead to the achievement of some goals of physical education and sport specific to education. **Results.** It was assumed that conducting physical education activities within the student training system, with the dominant application of the aerobic means, will allow to increase the influence of the instructional-educational process on the training of the necessary motor skills and experience, as well as the formation of the movement need. Some of the results obtained are: Push-ups: EG/Ti = 6,3±1,63 and EG/Tf = 8,8±1,13 while CG/Ti = 5,3±1,88 and CG/Tf = 6,3±1,63; Abd.flexion: EG/Ti = 12±1,41 and EG/Tf = 14±1,5 while CG/Ti = 11±2,05 and CG/Tf = 11,6±2,01; Runing resistance: EG/Ti =4,39±0,07 and EG/Tf =3,85±0,43 while CG/Ti = 4,38±0,1 and CG/Tf = 4,35±0,08. **Conclusions.** The hypothesis works to confirm, this allows us to affirm that it is possible for aerobic gymnastics and to contribute to the achievement of the proposed goals and to create the physical conditions for the students by increasing significant manifestation to provide their motor and psychomotor skills.

Keywords: aerobics, objectives, high-school

Introduction

For the health of the modern man the lack of movement, the abuse of nicotine, coffee and other toxic substances are risk factors for his life.

Plutarch said: „Movement is the greatest source of health ..." and Dr. Ph. Tisie states: „Exercises can replace some drugs, but no medicine in the world can replace exercise."

Sedentarism, that is, lack of movement leads to a gradual decrease in the possibilities of intellectual and physical effort of both the young generation and the adult population.

Having a healthy body means not only a correct development of the body's forms and functions, but also the existence of optimal relationships between the functions of the body and the ever changing conditions of modern society (Dragnea, şi colab., 2006).

The students and the students during the works and the study have a vicious position of the body, the group and the dorsal and vertebral muscular chains ensure the positions of the trunk in the deceptive position, but they are deceived, if they can be put into operation and they should not have to stop may be longer the spatial musculature fatigue and remain diminished the tone of muscle care may be progressively atrophied. The stomach musculature is short after what can lead to tilting of the trunk before, and the muscles of the abdomen relax becoming weak and weak (Antoniale, 2003, Craciun, 1984). All of these lead to kyphotic, lordotic, scoliotic deviations of the spine, and then decreased pulmonary ventilation and improved cardiovascular function.

The movement is „Feeding the joints", through which traction, pressure, compression and stretching are exerted on the bone - muscles that act as stimuli that increase bring in nutrients and growth in certain dimensions, which can be functional (Baroga, M.; Baroga, L., 1989)

In the muscles engaged in exertion, a rich network of capillary vessels was observed, an important increase in the consumption of oxygen that favors the increase in the capacity for exertion. So physical exertion determines both changes in structure and important functional changes (Cărpinişeanu, R., 1981).

Aerobic gymnastics has a great influence on the locomotor system because the exercises used play an important role in shaping the shape and structure of our body, especially on the component parts of the locomotor system: bones, joints, muscles, ligaments and tendons (Buiac, Suciu, 2007; Popescu, C., Suciu A., 1988).

Methods

The use of the means and methods of aerobic gymnastics in the physical education lessons of the school will lead to the achievement of some goals of physical education and sport specific to education.

It has been assumed that conducting physical education activities within the student training system, with the dominant application of aerobic means, will allow to increase the influence of the instructional-educational process on the training of the necessary motor skills and experience, as well as the formation of the movement need.

In our study we use 20 pupils from high school, 10 in experimental group (5 male and 5 female) and 10 in control group (5 male and 5 female)

In order to verify the subjects on the neuro-muscular composition and special resistance, the following tests were used:

- Endurance test - the endurance test is performed with top start consisting of the distance run of 800 m girls and 1000 m boys. The timing method was used for the resistance tests.
- Push-up - from the lying face support, the performer performs the action of full-bending of the arms at the level of the elbow joint. Only the correctly repeated repetitions were counted.
- Abdominal flexion from the back - is performed individually, from the position lying on the back, the legs extended and fixed at the ankles, hands to the neck - lifting the trunk to vertical (900) and returning to the initial position, for 30 seconds;

- Mobility in the foreground - bending the front trunk from the sitting position. To perform the test, a wooden crate is required, on which a 50 cm long ruler is fastened using a nail. Grade 0 (zero) to the performer and the figure 25 (after some authors 23) exactly on the edge of the box.

Seated with the legs extended (held by the knees of a partner) without shoes, the soles will be supported on the vertical side of the crate or the bench.

The trunk bends forward (in a slow motion, not suddenly) with the arms outstretched and close so that the tip of the fingers slide as far as possible on the ruler.

At maximum stretch, we hold position 3 seconds. It is measured centimeters.

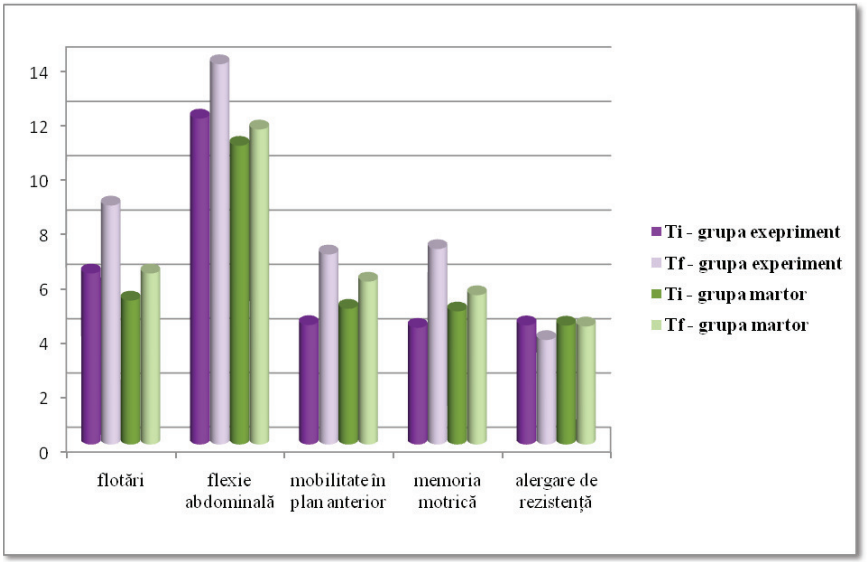
- Motor memory - 10 exercises structures will be executed in 8 steps, in which the movements are not repeated. The exercise is demonstrated by the teacher in a slow tempo and only once. The student reproduces the movements seen, it is not obligatory to repeat the sequence given by the instructor. The number of exercises correctly recorded is recorded.

Results

After the training programme with aerobic exercises, applied on the experimental group in some parts of the PE clases, we obtain the results wich we show in the table below. The control group work at their PE clases normaly, using the curricula in use.

Tests and measurements	X±x				Ti - Tf	Ti - Tf	Cv%					
	Experiment group		Control group				Experiment group		Control group			
	Ti	Tf	Ti	Tf	D	D	Ti	Tf	Ti	Tf		
Push-up	6,3 ±1,63	8,8 ±1,13	5,3 ±1,88	6,3 ±1,63	2,5	1	25,97	12,90	35,63	25,97		
Abd.flexion from the back (rep. in 30 ‘’)	12 ±1,41	14 ±1,5	11 ±2,05	11,6 ±2,01	2	0,6	11,78	8,24	18,68	17,33		
Forward mobility (cm)	4,4 ±4,06	7 ±4,21	5 ±3,82	6 ±3,46	2,6	1	92,2	60,1	76,41	57,63		
The motor memory (rep. executed correctly)	4,3 ±1,25	7,20 ±0,78	4,9 ±1,52	5,5 ±1,43	2,9	0,6	29,10	10,95	31,09	26,06		
Running resistance (800m girls and 1000 boys)	4,39 ±0,07	3,85 ±0,43	4,38 ±0,1	4,35 ±0,08	0,54	0,03	1,60	0,95	2,30	1,84		

Table nr. 1. Statistical indicators (mean, st. dev, CV and dif.), on the tests performed and values on the EG and CG.



Graph nr. 1. Comparison of the results obtained by the two groups (experiment group and control group) on the 5 tests performed.

Conclusions

The dynamics of the presented indices indicate that the final results of the test have undergone positive changes compared to the initial ones, at all the analyzed parameters.

Analyzing the dynamics of the statistical results regarding the basic motor skills registered in the two groups, we can see that in the experimental group in which the students were trained by the means of aerobic gymnastics, there was a significant increase of the indices in all the tests performed and in the control group in which the physical education activities were carried out with the application of the traditional means, the increase of the results is insignificant on all indications. In addition, it was determined that the application of the elements of aerobic gymnastics accompanied by musical accompaniment in the experiment group, contributed to the more rigorous, more pronounced formation of their basic physical qualities.

The hypothesis of the work was confirmed, this allows us to affirm that the means of aerobic gymnastics have contributed to the achievement of the proposed objectives and to the improvement of the physical condition of the students, significantly increasing the manifestation of their motor and psychomotor qualities.

From the observations made and the results obtained, it turns out that, under the current conditions created in the school institutions, one of the most efficient and accessible means of physical education of the students could become the aerobic gymnastics, obligatorily accompanied by the musical accompaniment, applied in according to the age particularities of the children.

References

1. Antoniale, S. L. (2003). „Teoria şi metodica dezvoltării calităţilor motrice", Editura Universitaria, Craiova,
2. Baroga, M.; Baroga, L. (1989). „Condiţia fizică şi sportul", Editura Sport-Turism, Bucuresti,
3. Buiac, D., Suciu, A. (2007). **„***Sănătatea şi activităţile fizice de-a lungul timpului***",** F.R.S.P.T, Bucureşti.
4. Cărpinişeanu, R., (1981). **„***Sănătate şi longevitate prin gimnastică***",** Ed. Litera, Bucuresti.
5. Chiriţă G., (1976). „Funcţia formativă a activităţilor corporale", Ed. Sport-Turism, Bucuresti.
6. Cosmovici, A., Iacob, L., (1998). „Psihologie şcolară", Ed. Polirom, Iaşi,
7. Crăciun M. Şt., (1984). „*Exerciţiu fizic izvor de sănătate*", Ed. Sport-Turism, Bucureşti
8. Dragnea A, (1984). „Măsurarea şi evaluarea în educaţie fizică şi sport", Editura Sport – Turism, Bucureşti

9. Dragnea A.,şi colab., (2006).„Educaţie Fizică şi Sport" – teorie şi didactică, Ed. FEST, Bucureşti

10. Popescu, C., Suciu A. (1988). „Ghid pentru organizarea lecţiilor de gimnastică aerobică", C.N.E.F.S.– Secţia sport de masă şi economică