Volume : 3 | Issue : 1 | Jan 2014 • ISSN No 2277 - 8160

Research Paper | Physical Education

Study on How to Increase the Efficiency of the Physical Education Lesson Through Fitness

Dumitrescu Remus

Department of Physical Education and Sport, University of Bucharest, M. Kogălniceanu Av. No. 36-46, sector 5, Bucharest, Romania

ABSTRACT

The objectives of this study are the analysis of the effects of a fitness program tailored to morpho-functional and movement parameters with results on the development of young students' body aesthetics.

The study has been conducted over a period of two academic years: 2011-2012 and 2012-2013, including 40 subjects between 18 and 21 years. Subjects in both experimental groups have been participating in various fitness programs of 120 minutes (the conventional university lesson) once a week.

After 48 training weeks the results obtained by the experimental group show an improvement as far as the tested parameters are concerned ($p \leq 0.05$). The impacts of the program in which the operating systems have been adapted to the particularities of the subjects from the experimental group were significant.

The study highlights the fact that the girl students explicitly give an important role both to the development of body aesthetic and psychological traits using a self-direct approach concerning the group relations.

KEYWORDS : physical education, fitness, body aesthetics

Introduction

The present study focuses on identifying the positive influence physical exercise has on the human body, as well as on finding ways of practicing fitness as an option towards adopting an active lifestyle.

A large part of the population, including an increasing number of youth, suffer from emotional, behavioral and even mental disorders (depressions, panic attacks, psychoses, etc).

In his work, "The self and learning how to acknowledge it - current themes of psycho-sociology" the author Ilut, P. (2001) suggests that a characteristically female activity necessarily affects how one conceives oneself. Notions such as: *„self-concept"*, *„self-esteem"*, *„self-monitoring"*, *„self-efficacy"*, treated theoretically by J.E. Maddux, J.T. Gosselin (2003) are standing points in establishing goals of this activity which focuses on the formation or improvement of one's self-image, as well as on improving a positive perception of the abilities and capacities of one self.

The subject of this work is supported by a rich system of facts originating from biology, psychology, pedagogical, sociology etc., each of these enhancing a certain aspect of fitness as an activity that is complex through its effects and ways of expression.

Material and methods

The experimental group underwent a differentiated program focused on fitness exercises, where several method of training were combined based on anatomic traits, while the control group underwent the traditional training. The evaluation included anthropometric data and functional tests.

We used:

a)-Somatic evaluations (anthropometric measurements) – 19 indicators were considered: height (cm), weight (kg), bitrochanteric diameter (cm), thoracic perimeter (cm), thoracic elasticity (cm), abdominal perimeter (cm), hip perimeter (cm), arm perimeter (cm), forearm perimeter (cm), thigh perimeter (cm), calf perimeter (cm), body mass index (points), fat tissue (%), fat tissue (kg), lean body mass (kg), water weight (kg), mineral weight (kg), protein weight (kg), glycogen weight (kg).

By comparing the final results, a significant progress is noticed (invalidating the null hypothesis) for specific somatic indicators. The experimental group has reached better improvement rates, thus proving that the experimental program has had more influence on the somatic dimensions of the subjects, than the control group.

The somatic indicators that significantly evolved are: weight – thoracic perimeter – thoracic elasticity – arm perimeter – thigh perimeter – body mass index – fat tissue – lean body mass – mineral weight (kg) – protein weight - glycogen weight.

By participating at the fitness themed physical education lessons, the students have managed to improve their overall physical fitness in comparison to the level they were situated at as the experimental period commenced. The improvements were made noticeable through the results they obtained at the final test for endurance. The results obtained after the initial tests showed a poor physical fitness, as the subjects showed a modest biological and motor potential at the beginning of their university studies. This fact strengthened our conviction that during secondary school an insufficient amount of resources are spent through activities of physical education and sports.

b) - Physiological evaluations - the heart rate, and the aerobic capacity showed through the Ruffier test were improved, despite the increase in effort amount and intensity thus proving a better adaptation of the cardiovascular system to effort.

The experimental group showed obvious improvement in effort capacity, going from "satisfactory" to "average."

The improvement of respiration flow rate and volume, tested with the spirometer, was best observed as the difference in individual values. In the control group the individual percentage on the spirometer scale also modified, but these subjects remain with a deficit in their values for respiration flow rate.

Graphical representations in various forms play an important part in the stage of processing and analysis of our data. These were made using the products Minitab, and Microsoft Excel.

Chart no.1. Representation fat

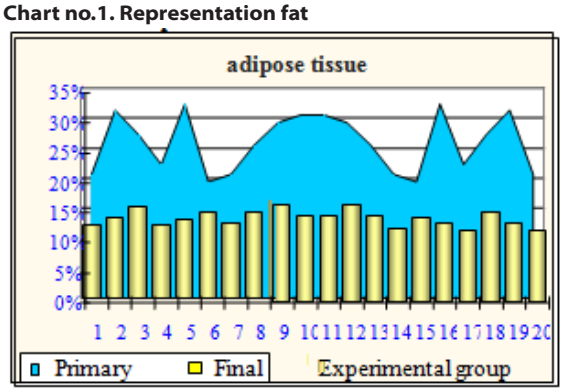


Table no. 1. By applying the simple ANOVA method to the experimental group during the final test, the following results emerged

Anthropometric indicators		Experimental group	
		F	P
Weight (kg.)		0.07	< 0.797
Bitrochanteric diameter (cm)		1.27	< 0.274
Thoracic perimeter (cm)	Inhale	0.22	< 0.645
	Exhale	0.32	< 0.580
Thoracic elasticity (cm)		19.78	< 0.0003
Abdominal perimeter (cm)		0.02	< 0.891
Hip perimeter (cm)		0.69	< 0.419
Left arm perimeter (cm)	Relaxed	0.84	< 0.373
	Contracted	1.29	< 0.270
Right arm perimeter (cm)	Relaxed	0.90	< 0.355
	Contracted	2.25	< 0.151
Left forearm perimeter (cm)	Relaxed	0.10	< 0.750
	Contracted	0.16	< 0.696
Right forearm perimeter (cm)	Relaxed	0.14	< 0.710
	Contracted	0.00	< 1.000
Left thigh perimeter (cm)	Relaxed	0.03	< 0.859
	Contracted	0.03	< 0.862
Right thigh perimeter (cm)	Relaxed	0.01	< 0.932
	Contracted	0.10	< 0.752
Left calf perimeter (cm)	Relaxed	1.16	< 0.296
	Contracted	1.26	< 0.277
Right calf perimeter(cm)	Relaxed	1.20	< 0.288
	Contracted	1.78	< 0.199
Body mass index (kg)		0.01	< 0.905
Fat tissue (kg)		5.01	< 0.038
Lean body mass (kg)		17.52	< 0.001
Water weight (kg)		17.55	< 0.001
Mineral weight (kg)		18.24	< 0.0005
Protein weight (kg)		17.59	< 0.001
Glycogen weight (kg)		16.09	< 0.001

Source: Author

Table no. 2. Data obtained using the simple ANOVA method, applied to the experimental group for the final testing issue the following results

PHYSIOLOGICAL INDICATORS		Experimental group	
		F	P
1	Respiration flow rate(Spirometry)	4.22	< 0.055
2	Aerobic functional capacity (Ruffier test)	3.73	< 0.069

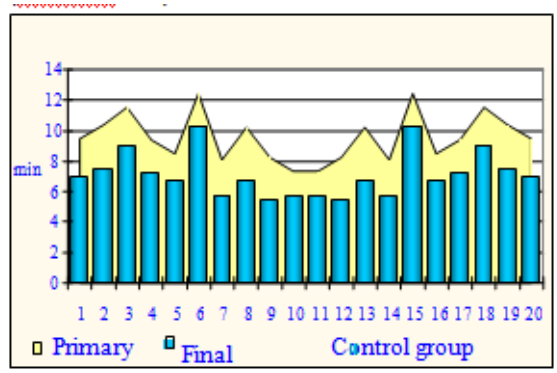
Source: Author

Table no. 3. Using the STUDENT test for the initial and final tests on the experimental group leads to the following results

PHYSIOLOGICAL INDICATORS		Experimental group	
		t	p
1	Respiration flow rate(Spirometry)	7.387	< 0.00004
2	Aerobic functional capacity (Ruffier test)	13.730	< 0.0000002

Source: Author

Chart no. 2. Aerobic functional capacity (Ruffier test)



Discussion:
We have considered that approaching this theme s a step forward towards improving body aesthetics in general, as well as mental capacity.

Following scientific documentation and the performance of the experiment, we seeked to ntroduce a series of methods and ways that would lead to the optimization of body aesthetics development within fitness lessons.

With this in mind, we have done the following:

a). The preparation program was centered on increasing self-esteem by developing body aesthetics.
b). The curricular didactic project we elaborated facilitates the operation of the instructional objectives or the transformation of general specific objectives into intermediate objectives or of these into operational objectives.
c). Our project comes as a confirmation that individualized training performed to small groups and according to personal traits, done within organized lessons, as well as outside of these, is superior to the main frontal one.

Originality:
The programs I have proposed, as well as the chosen acting systems have contributed to confirming the set objectives.

The results we obtained confirmed the improvement of body bearing, self-image, personality development, individual training routine formation, physical exercise independence, and the enhancement of a desire for reaching perfection.

Conclusions:
Following concrete situations encountered during the experiment, we would like to make notes on:

- specialised teachers as well as students should pay more attention to the process of training and learning motor and mental skills, by being aware that the mental factor is decisive in obtaining the desired effects.
- a careful evaluation of the students' mental and motor skills, as well as the evaluation of theis capacity to cope and respect entirely the proposed operational structures that are useful to the training programs.
- we reccomend the constant use of training programs for mental capacity, and mental processes, in order to increase the value of the results obtained by the sutdents within: autonomy, self-regulation within organized school activities, as well as outside of these.
- informing area experts on the advantages of the use of modern psychological techniques towards improving body aesthetics.

REFERENCES

[1]Cucoş, C. (2006), Pedagogy. Second edition revised and enlarged. Ed. Polirom, Bucharest, pp. 303; 305-306. | [2]Drăgan, I. (1989), Practica medicinii sportive, Ed. Medicală, Bucureşti, pp. 89-90. | [3]Dumitru, G. (1977), Psysiology of fitness. Training specialists, Ed. Romanian Federation Sport for All, Bucharest, pp. 5-23. | [4]Duncan Mac Daugall, & Howard Wenger (1997), The purpose of physiological testing. CCPS. Psysiological profile of the athlete performance, vol. I, SDP, Bucharest, No. 383-385. | [5]Epuran, M., Marolicaru, M. (2006), Research Methodology body activities (Fourth edition revised and enlarged), Ed. RISOPRINT, Cluj-Napoca pp.86-105. | [6]Gagea, A. (2000), Statistics computed in physical education and sport, Ed. Ecological University of Bucharest, pp. 222-256. | [7]Hidi, I. (2007), Fitness. Didactic and Pedagogical Publishing House, R.A., Bucharest, pp. 9; 74-104. | [8]Iluţ, P. (1995), Axiological structures psychosocial perspective. Didactic and Pedagogic Publishing House, Bucharest. |