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THE PROFILE OF PHYSICAL ACTIVITIES AND THE LEVEL OF PSYCHOMOTOR EFFORT OVER FEMALE STUDENTS SPECIALISED IN DIFFERENT ACTIVITIES OF THE UNIVERSITY OF BUCHAREST

Profilul activităţilor fizice şi nivelul solicitărilor psihomotrice survenite asupra studentelor din cadrul unor specializări ale Universităţii din Bucureşti

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Abstract.
Background. The development and spreading of physical activities are processes that contain different fields of activity, therefore we need a model of the psychomotor demands, specifically for the specializations and conditions of every student's life.

We are talking about a decision drawn by analyzing interdisciplinary data with different content, in order to obtain positive results during P.E classes such as: the optimization in the process developing the body aesthetic and the raise of self-esteem

Objectives: The study took place between the years 2016-2017 and included only female student prospects and with the means of the data we gathered and analysed, we set off to demonstrate the efficiency of the applied programmes, considering the level of effort in certain moments of the day or week, along with the preferences for certain subjects which undoubtedly enhanced the aesthetic evolution of the female body.

Methods: We applied a closed, social Market Research quiz, adapted from „The Cooper Institute for Aerobics Research" (1999) and applied to a number of 120 female students from first and second year.

The structure of the quiz was made of 6 basic categories and subcategories of physical activities, each containing 5 questions reffering to: the daily schedule, ($7,^{00}$ şi $14,^{00}$) the activity type, rest, work level intensity (low, medium, high) monitoring the activities during the whole week.

Results. **Quantitative analysis** highlighted the following: 52.5% of the female students believe they have problems regarding their physical condition, 63% of them are not pleased with their appearance.

Qualitative analysis showed the following: 97% of female students are aged between 18 and 21 and 79% live in an urban environment, 21% took a mild part in physical activity in their last year of highschool, 4% were excluded on medical reasons.

Conclusions. After applying the quiz and debating on the results, we could conclude the following: that physical activities take place mostly on Mondays and Fridays; activities for improving physical condition take place mostly on Mondays, Wednesdays and Fridays; competitive or recreative physical activities take place mostly on Tuesdays and Fridays; phyisical activities for muscle tonification take place mostly on Mondays and Fridays; physical activities for improving mobility and life quality take place mostly on Tuesdays and Thursdays; other activites than phyisical activities take place mostly on Tuesdays and Wednesdays.

Keywords: physical activity, intensity, effort, psychomotric solicitations

Introduction

In the academic environment the implementation and the development of phyisical activities are processes that include a variety of fields of activity which is the reason why we need to identify methods as efficient as possible that take into consideration both the morpho-functional particularities and the psychomotrical demands specific to the different degree specializations and life conditions of young female students.

In the case of this social category we reffer to an undertaken decision that results from the processing of certain interdisciplinary information with different content but unique meaning, that is: the optimization of the body aesthetic development and of the specific psychical processes, as well as the achievement of positive results not only in the context of organised activities such as physical education classes but also in the leisure time.

„Today's society is carachterized by accelerated work rate that induce pressures sometimes hard to counter by the subjects that are incapable of resonating or synchronizing with them. The rigour with which time is being compartmentalized leads to the notion of *time budget*. Like any other budget this one normally implies a limited resource that must be moderately managed" (Bota, A., 2006).

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There are always new terms and interpretations related to the notion of leisure time. Thus *Miller* and *Robinson* (quoted by Ganciu 2010) two tourism analysts, in their presentations we encounter for the first time the diferentiation between "leisure time" which can be understood as the available time the individual has left after the fulfilment of necessary work or other activities and obligations are completed.

The French sociologist Dumazedier, J.M. (1971), quoted by Raţă G., (2007), perceives leisure time as the time in which "*an assembly of activites to which the individual dedicates freely, willingly and with pleasure to either for resting or for having fun and satisfy their aesthetic needs, or for enriching their knowledge, or enlarge and develop their voluntary social participation or creative capacity, after he has eliberated himself of all professional, social and familial obligations*" is achieved.

"In the modern acception, health is considered to be a state/condition which is of physical, social and psychological nature. For an individual to benefit from a good health condition it is not enough for the certain person not to be diagnosed with an illness, but it is required that all their health components to be situated at the positive pole. Therefore there is the posibility of objective evaluation of the tendency to reach the *state of wellness*" (Aducovschi, D., 2012).

"Motivation is required in order to change our behaviour, become conscious in regards to what is good and what is bad. The identification, quantification and anticipated monitoring of risk factors should be paid attention to by each and every one of us at least starting with the young adult age" (Aducovschi, D., 2012).

Yukseloglu & Karaguven (2013) have studied academic motivation, wanting to identify the factors and efficiency on a group of students. The results have shown that the group, having demographical characteristics and common specialization, had a higher efficiency regarding academic motivation. This matter has also been studied by Haron et al., (2012), they studied motivation and the effect on intellectual understanding and performance among the students.

Students devote a good amount of time home and their behavior and actions are greatly influenced by their parents. The level of education of the parents play an important role in the success of the young's education.

Results contested by Krug (1989) and Forsyth & McMillan JH (1991) have shown that the academic factors are as efficient regarding the motivation and student academic orientation.

Motivation and reasoning of the research

Establishing the profile of the activities, the level of physical and mental solicitation, occurred in the students' everyday activities throughout the specializations of the University of Bucharest, in everyday life and the attainment of certain data which help us create a more relevant activity diagram.

The development and the spread of physical activities are processes that comprise various activity environments and that is why we need an example of the psychometric solicitations specific to the specializations and the conditions of the life of the students.

Therefore, there is a decision arising from the processing of certain interdisciplinary information containing different content, aiming for obtaining of positive results in the physical education class, those being:

- optimizing the development of the body esthetics;
- increase in the degree of satisfaction.

The subjects undergoing the study are students of the 1st and 2nd year of the Physical Science Faculty, and the sport and physical education class is comprised in the Education Plan, having an mandatory regime. This faculty has an universitary campus situated outside of Bucharest, at a distance of 10 km, featuring an up-to-date sports holl and also an open air football field. This facilities allows for the possibilities of practicing more sporting branches, inside the holl (voley, basketball, handball, tennis, badminton, aerobics, fitness, bodybuilding and table tennis), as well as outside (football, tennis, athleticism).

The work is done by applying programs according to the psysical needs and possibilities, but unfortunately, the sportive infrastrucure limits us in covering all the sportive branches required by the students.

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Objectives

We have proposed to demonstrate the eficacity of the applied programs considering the effort intensity in certain moments of the day and week, as well as the preferences for certain disciplines and extracurricular activities that helped the evolution of the improvement of the feminine body estethics.

The study was conducted in the 2016-2017 period and has focused exclusively a sample of students, through the analysis of the selected data the aim was to determine the aspects that influence the increase of the motric capacity, mainting a high physic and mental tone, and also to create the dependency of living a helathy lifestile.

The investigation based on a questionnaire was comprised of questions addressed to the respondents, meaning an active cooperation from their side for the success of the investigation, implicitly a systematic gathering of the data regarding a well structured group, collection of information about the students, roles, networks and social groups.

Methods

A close-ended questionnaire has been applied, taken over, adapted after „The Cooper Institute for Aerobics Research,, (1999) and applied to 120 students from the first and second years of study.

The structure of the questionnaire is comprised of 6 main categories and 6 subcategories of physical activities, each having 5 questions that reffer to: daily routine (between 7^{00} and 14^{30}), type of activity, rest, work intensity (low, medium, high), monitoring the whole week of activities (Monday to Friday).

The enquiry has been about questions addressed to the respondents and it was based on active cooperation of them for the success of the investigation. The purpose was that of systematically collecting data about a well defined social group, allowing for individual information gathering, roles, social groups, organisations, as well as education institutions and jobs. The information is provided by The Sociology Dictionaire (1998).

Table no. 1. Activity categories

Daily physical activities	**Aerobic activities**	**Sport activities**	**Muscular toning activities**	**Mobility exercises**	**Rest and inactivity**
Physical activities done everyday	***Activities done to improve physical condition***	***Activities done as competitional or recreative sport***	***Activities done for muscular toning***	***Activities for improving mobility and life quality***	***Activities done when there are no other physical activities***
1. Walking, riding a bike or skateboarding	1.1.Fitness/Aerobics	2.1. Football	3.1.Heavy lifting	4.1.Martial arts	5.1.Individual study for school or disconnected lecture
2. Physical activities inside the house or in the garden	1.2. Aerobic Dance	2.2.Team games (basketball, voley etc.)	3.2. Athletics	4.2. Stretching	5.2.TV or computer games
3. Active games or dance	1.3.Aerobic activities: running, riding a bike, rollerskating.	2.3. Sports using battledore (tennis, badminton etc.)	3.3.Gymnastics, dance, activities during the physical ed. class	4.3. Yoga	5.3.Eating or rest
4. Work that implies physical activities	1.4.Aerobic activities done during physical ed. classes	2.4.Sports during the physical ed. class	3.4. Judo	4.4. Balet, dance	5.4. Sleep
5. Other	1.5. Other	2.5. Other	3.5. Other	4.5. Other	5.5. Other

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NASPE orientations specifically advise the selection of the activities of each different levels of physical activity with the help of the Pyramid of physical activity initiated by Corbin, C.B. & Lindsey, R. (2007).

The pyramid is used as a method of classification of different types of physical activities, also, for the evaluation with the help of the Activity Diagram (Cooper Institute, 2004) presenting the best concepts of physical activity, and fitness for life Corbin, C. B. and colab. (2007).

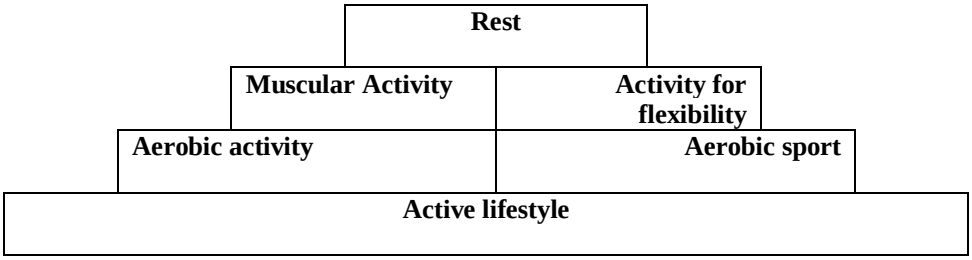

Fig. 1. Activity Diagram Pyramid

Questionnaire aplication, centralizing and opinion analysis, unfolded on a six months period of time: October, November, December 2016 and March, April, May of 2017, in the time of the physical education and sport courses, period in which we had a good relation with the selected subjects.

Table no. 2. Table of results according to the activity type

Days	**Effort intensity**			
	Rest	**Low intensity**	**Medium intensity**	**High intensity**
Monday	0%	30%	45%	25%
Tuesday	20%	15%	30%	35%
Wednesday	10%	15%	50%	25%
Thursday	5%	35%	30%	30%
Friday	15%	30%	35%	20%

Results

Our evaluation looked upon all the operations which verifies in what percent the results of the educational process correspond to the objectives and standards initially set. This system supposed the establishment of objectives, organisation and reorganisation method, adjustment and readjustment, as well as a permanent control that provides data for fulfilling set tasks, realized progress or eventual errors signaled by unsatisfying results.

After this study, the **quanitative analysis** highlighted the following aspects:

- 52,5% of the students consider that they have problems regarding the physical condition;
- 63% of the students are not pleased by the way they look.

Regarding the **qualitative analysis** we highlight the following:

- 97% of the respondents are between 18 and 20 years old;
- 79% come from urban areas;

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- 21% have had modest participation throughout the physical education classes of the year before going to college;
- 4% acquired medical relief.

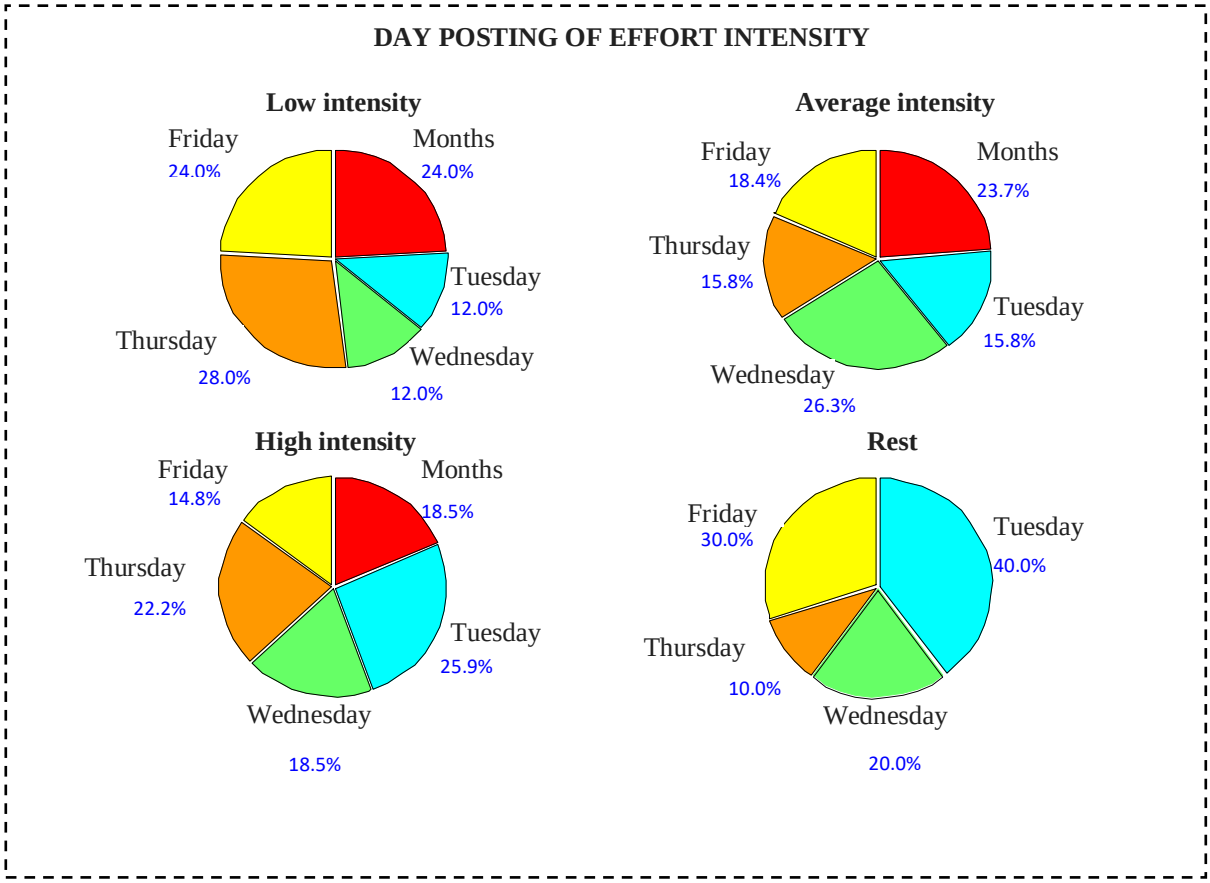

Fig. 2. Day posting of effort intensity

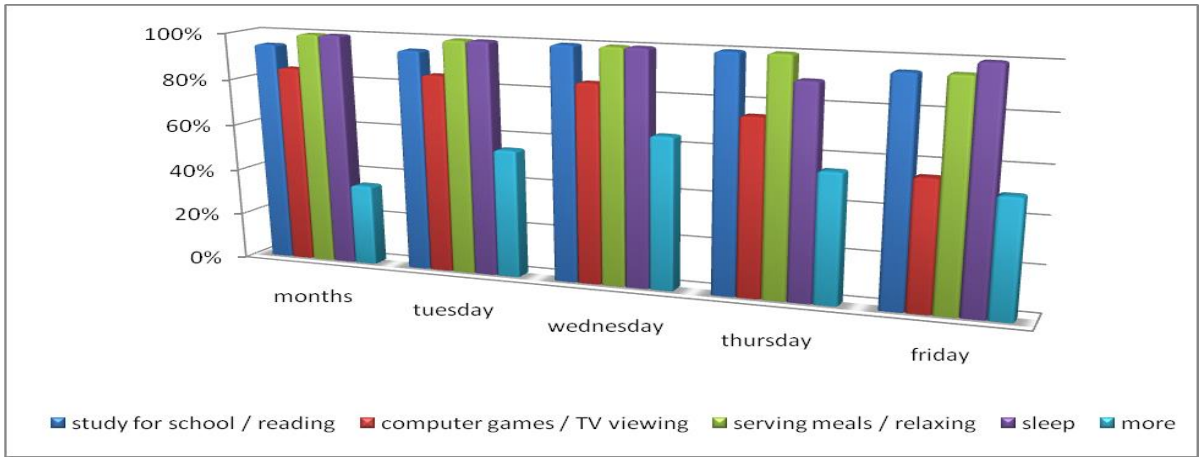

Fig. 3. Activities other than physical education and sports lessons

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Conclusions

Following the results gathered from the subjects of the Activity Diagram applied in research, we have discovered the following:

1. Regarding the physical activities that are done on a daily basis, the majority of the respondents chose the 1 and 2 items, prevailing Monday and Friday;
2. Activities that are done for the increase of the physical condition, the majority of the respondents have chosen the 1.1 and 1.2 items, prevailing the days of Monday, Wednesday and Friday;
3. Regarding the competitive or recreative sportive activities, the respondents have chosen for the 2.2 item, prevailing the days of Tuesday and Friday;
4. For the activities that are done for muscular toning, the majority have chosen the 3.3 item, prevailing the days of Monday and Friday;
5. For the improvement of mobility and life quality, the respondents have chosen the 4.2 and 4.4. items, prevailing the days of Tuesday and Thursday;
6. Other types of activities carried out separately from the physical activities, the majority of the respondents have chosen the 5.1 and 5.4 items, prevailing the days of Tuesday and Wednesday.

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WAY OF ACTION FOR LEARNING AND STRENGTHENING THE SPECIFIC MOTRIC CONTENT OF AEROBIC GYMNASTICS, WITHIN THE PHYSICAL EDUCATION LESSONS OF HIGHER EDUCATION

Modalităţi de acţionare pentru învăţarea şi consolidarea conţinutului motric specific gimnasticii aerobice, în cadrul lecţiilor de educaţie fizică, din învăţământul superior

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Abstract.
Background. The motor learning in the aerobic gymnastics is characterized, in general, by the laws and the stages of learning the motor acts , by all means, with some particular features, which are due to the particularities of this sport. The system in which the motor content specific to the aerobic gymnastics acts for the learning, strengthening and improving contains succesive stages during which the different types of exercises are shared in a sensible way, the didactic principles of learning being respected. The rational staggering of the series of exercises is gradual and realized in interdependent conditions, by progressively raising the complexity. All of these are meant to contribute to the quick and correct representation of the movement, being based on the positive transfer of some movements' characteristics to the others similar in structure.

Objectives.The objectives of the reaserch consists of choosing the most efficient methodes and ways for learning the motor content specific to the aerobic gymnastics, during the courses of physical education.

Methods. We have used the following methods of research in order to create this study: the improving experiment, the statistic-mathematic method and the graphic representation. The experiment was developed during the period October 2016- may 2017. The sample used was made up of 60 students of The University of Bucharest, who attended the course of aerobic gymnastics, and the lessons of the two groups took place separately. Regarding the witness group, classic, traditional methods were used, while for the experimental the differential treatment and the independent activity. For the independent activity, individual patterns were used (as number of series and repetitions), they were performed at least threefold a week. The evaluation of the progress realized by means of the proposed program is based on tests, applied at the beginning and the end of the program.

Results. In both groups, the final results are better than the initially recorded results at the begging of the experiment, yet regarding the experimental group, was observed a significant increase between the initial and the final testing on all the investigated parameters, comparative to the control group, where the rate of increasing is lower.

Conclusion. The superiority of the results as the experimental group proves the efficiency of the applied program and of the different activities which I have been used for my students, as well as the fact that the fathoming of the exercises proposed in „The Program of independent activity" is necessary, because the simple gathering of an amount of movements is not enough, but one has to deepen the phenomenon until fully understanding it. It is necessary to be understood why a certain movement follows another, why the combinations are composed of a specific enchainment of exercises, and how, by understanding the meaning of these chain, one can made their own combinations.

Keywords: learning, aerobic gymnastics, physical education, students

Introduction

The motor learning process implies the distinctive manifestation of some factors which obtaining performance depends on, through the values that it shows up.

Within the framework of motor learning, there are two categories of conditions that intervene. Some of them are internal, which are represented by the capacities of the individual who is subject to the learning process, and others external, controlled by specialists.

The internal factors of learning are:

-motivation

-interests

-the knowledge processes: perception and sense of observation, representations, memory, imagination, thinking (convergent and divergent), attention.

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The external factors of learning are:
-the training and personality of the specialized framework
-the organization of the learning activity
-the interrelationships between the team

The motor learning in the aerobic gymnastics is characterized, in general, by the laws and the stages of the learning of the motor acts , by all means, with some particular features, which are due to the particularities of this sport. The system in which the motor content specific to the aerobic gymnastics acts for the learning, strengthening and improving contains a successive stages during which the different types of exercises are shared in a sensible way, the didactic principals of learning being respected. The rational staggering of the series of exercises is gradual and realized in interdependent conditions, by progressively raising the complexity. All of these are meant to contribute to the quick and correct representation of the movement, being based on the positive transfer of some movements' characteristics to the others similar in structure.

The purpose of the research consists of choosing the most efficient methods and ways for learning the motor content specific to the aerobic gymnastics, during the courses of physical education.

Research tasks:
-the choice and selection of the tests and parameters to investigate
-the elaboration of the program which is to be subject to the experiment
-the selection of the techniques, number, succession and their duration during lessons and the examination of their efficiency
-the embodiment of the methodology regarding the validation of hypotheses
-the correction of the evaluation system expanding the objectivity through individualization and self-sufficiency elements
-the elaboration of a specific system of grading /evaluation
-the presentation, analysis and interpretation of data
-the elaboration of conclusions

Methods of research

We have used the following methods of research in order to create this study: The documentation, the improving experiment, the statistic-mathematic method and the graphic representation.

Organization of the research

The experiment was developed during the period October 2016- may 2017. The sample used was made up of 60 students of The University of Bucharest, who attended the course of aerobic gymnastics, and the lessons of the two groups took place separately. Regarding the witness group, classic, traditional methods were used, while for the experimental the differential treatment and the independent activity. For the independent activity, individual patterns were used (as number of series and repetitions), they were performed at least threefold a week. The evaluation of the progress realized by means of the proposed program is based on tests, applied at the beginning and the end of the program.
The examination of the progress accomplished by the proposed program is done based on the motor tests, performed at the beginning and at the ending of the experiment, as well as through a specific trial, which consists in the execution of an aerobics program, designed by students, presented in the form of competition.

The trial consists in the presentation of a complex of exercises consisting of 64 measures music 2/4 and which contains:
A – basic aerobic steps
-jumping jack
-knee

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-kick
-lunge
B. – link steps
-march
-jog
-skip
-step-touch

Results

- The learning, consolidation and improvement goals of the skills and motor abilities or of the motor qualities of development were realised by using various *methods of training*. The most used ones were:
    a. The continuous method
    b. The fractionary method (with intervals)
    c. The circuit method
    d. The competition method
- The specific techniques used in the training of the students included a large and varied number of exercises whose influence on the motor capacity is complex. The very means with which it was operated were:
    1. Basic means
        - Means for special processing of the walking device
        - Means for harmonious physical development
        - Means for education of the moving aesthetic
    2. Technical means, which follow the forming of the general outlines of the techniques (e.g. fragmentation, global or auxiliary)
    3. Exercises for the development of the effort capacity
    4. Exercises for breathing and relaxation
- The motor evaluations presented above allow us to observe the following improvements of these indicators, at the final evaluation, after applying the intervention plan

Table 1. – Motor indicators

	.1	.2	.3	.4	.5	.6	.7	.8	.9	10
Group	F.Abs	F.Back	F. Arms	Mobility	Balance	Coord.	Tenacity	Length	Speed	Resistance
Experimental	30.17	23,74	102,23	22,52	-66,67	33,36	52,34	5,78	-1,72	32,63
Witness	9,93	10,17	42,55	10,17	-37,06	8,01	27,97	2,18	-0,77	26,30

- The system of the motor indicators largely covers up the range of the motor components (skills, habits and qualities), considered to be a predominant finality of the systematic practice of aerobics. Thus, segmentary force indicators are included (back, abdomen, arms, tenacity), mobility and coordination indicators (which imply the muscular flexibility), speed of movement and force on speed and resistance basis.
- In both groups, the final results are better than the initially recorded results at the begging of the experiment, yet regarding the experimental group, was observed a significant increase between the initial and the final testing on all the investigated parameters, comparative to the control group, where the rate of increasing is lower.
- The trial consisted on the making of an aerobic exercise in 32 measures, music 2/4, executed by an ensemble formed of 6 performers in the form of competition.
- The subjects of the two groups were given as a term to conceive, based on the motor, theoretical and methodological knowledge, an aerobic program, executed in the form of competition by an ensemble of 6 students. Therefore, each group (experimental-witness) organized each five programs (ensembles) which

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were presented in the form of competition. After the unfolding of the competition, the following marks were obtained:

Table no. 2. Evaluation of the groups

EXPERIMENTAL GROUP	MARK	WITNESS GROUP	MARK
Ensemble no.1	7,50	Ensemble no.1	4,50
Ensemble no. 2	8,30	Ensemble no. 2	6,70
Ensemble no. 3	6,40	Ensemble no. 3	5,40
Ensemble no. 4	6,30	Ensemble no. 4	3,20
Ensemble no. 5	7,80	Ensemble no. 5	6,20
Average experiment group	**7,46**	**Average witness group**	**5,20**

Conclusions

The superiority of the results as the experimental group proves the efficiency of the applied program and of the different activities which I have been used for my students, as well as the fact that the fathoming of the exercises proposed in „The Program of independent activity" is necessary, because the simple gathering of an amount of movements is not enough, but one has to deepen the phenomenon until fully understanding it. It is necessary to be understood why a certain movement follows another, why the combinations are composed of a specific enchainment of exercises, and how, by understanding the meaning of these chain, one can made their own combinations.

This acknowledgement leads us to the same conclusion, meaning that individual training is superior to frontal, traditional training.

The superiority of the results obtained by the experimental group is also explained by the maintenance of the measures of methodological class that were taken or implemented in the training strategies:

- the practice of the principles of difference and awareness of the activity, each subject was aware of the shortages and the individual tasks that were given to them. In each of these situations, operational structures were settled, which were also practiced in the free time.
- the predominantly application of the participatory and formative methods also had collateral effects, for example: the increase of interest for understanding the phenomena, acquiring skills with methodological character, stimulation of individual and group creativity

With these methodological measures, we can say that they capitalized or they increased the pedagogical and psychological valences the most, targeted by our research purpose.

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THE STUDY REGARDING THE PHYSICAL EFFORT CAPACITY OF FEMALE STUDENTS OF THE UNIVERITY OF BUCHAREST

Studiu asupra capacităţii de efort a studentelor din Universitatea Bucureşti

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Abstract
Research question aims to optimize functional training of female students in university physical education by practicing aerobic gymnastics. The experimental program was developed and then investigated functional parameters were female students were included in the experiment. Dynamic indices of control and experimental group was statistically interpreted one year after application of the experimental program. It was assumed that the use of specific aerobic gymnastics in physical education lessons with students in higher education, will contribute substantially to optimize their level of functional training.

Keywords. Physical education lesson, female students, general physical training, functional training, aerobic sports, aerobics.

Objectives

The aim of the research is improving the educational training process in physical education by applying the specific means of aerobic gymnastics to first year university students. In this sense was given an experimental program with aerobics classes has been applied during an academic year for experimental group. Worked in the control group after specific traditional planning general physical training lessons.

Methods

The scientific research used the following methods: measurement and evaluation methods, pedagogical experiment and statistical and mathematical methods of data processing and interpretation.

Results

Effort capacity varies from one individual to another, as it depends largely on genetic inheritance, natural skills and physical condition treated by training.

The research hypothesis

It was assumed that the use of specific aerobic gymnastics in physical education lessons with students in higher education, will contribute substantially to optimize their level of functional training.

To assess functional training level female students under study we applied a battery of functional tests, aimed at maximal anaerobic power, body recovery after exercise and body adapt to stress. To follow the dynamics of these results were compared with model profile developed specialist in the Department of Physical Education, University of Bucharest accomplished by monitoring a number of 5000 students during the five years of study. Level subjects undergoing functional training is not satisfactory experiment reported all professional models. The results obtained were the starting point in the development of experimental methods used to increase physical and functional potential of female students aged 18-22 years. We present in Table 1 the results obtained by students who took part in the experiment teaching.

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Table no.1. Dynamic functional indices (n = 50)

Samples	Subjects	Initial testing $\overline{X} \pm m$	Final testing $\overline{X} \pm m$	t	P
Heart Rate, beats/min.	E	73,96±0,93	69,92±0,34	4,95	<0,001
	M	73,28±1,04	72,84±0,96	3,38	<0,05
t,p		0,48>0,05	2,85<0,01		
Vital capacity, cm³	E	3516±76,95	3876±80,2	5,10	<0,001
	M	3584±108,11	3612±97,18	0,80	>0,05
t,p		0,51>0,05	2,09<0,05		
Test RUFFIER- IR	E	11,62±0,25	9,96±0,38	5,10	<0,001
	M	11,4±0,19	11,08±0,22	1,51	>0,05
t; P	E-M	0,70>0,05	2.53<0,05		
Test SARGENT- P	E	103,39±4,31	131,07±4,99	5,38	<0,001
	M	105,30±3,78	110,85±4,17	2,76	<0,01
t; P	E-M	0.33>0,05	3,10<0,001		
Test HARWARD - IH	E	64,43±1,87	80,01±1,77	6,8	<0,001
	M	66,1±2,12	67±1,89	1,81	>0,05
t; P	E-M	0,58>0,05	5,00<0,001		

Heart rate (beats / min.)

During initial testing of the experimental group, the arithmetical mean values are 73.96 to 0.93 average error and the control group are 73.28 to 1.04 average error. At final testing, arithmetic mean values of the experimental group reached 69.92 with a mean error of 0.34, while the control group mean values reach 72.84 with a mean error of 0.96. It is noted that the experimental group exceeded the model in the literature (70.35 beats / min.).

Differences between initial and final testing experimental group shows that "t" calculated value 4.95 is greater than "t" spreadsheet (Fisher) to materiality 0.001, demonstrating significant differences between tests. Regarding the control group value of "t" is calculated is greater than 3.38 "t" statistic, also resulting in significant differences between tests, but at P <0.05.

Noting differences between the experimental and control environments initial testing, it shows that "t" calculated value is less than 0.48 "t" statistic at p> 0.05, the test result is insignificant and final "t" calculated the value 2.85 is greater than "t" statistically significant result at P <0.01.

Following these findings, we can say that the final testing results due to systematic effort subjects who underwent two groups during the experiment. Also, regardless of the means used (mainly physical, technical and tactical), the total effort that was applied to both groups, leading to cardiovascular adaptation to the requirements of sporting activity.

Spirometry (cm ³)

During initial testing, the arithmetic mean of the experimental group values are 3516 with 76.95 average error and the control group is 3584 with error 108.11. Final testing of the experimental group arithmetic average values reach 3876 with the average error of 80.2, while the control group mean values reach 3612 with error of the mean of 97.18. It is noted that the experimental group was closer to the model of literature values (4245 cm ³).

Differences between initial and final testing experimental group shows that "t" calculated value 5.10 is greater than "t" spreadsheet (Fisher) to materiality 0.001, demonstrating significant differences between tests. Regarding the control group value of "t" is calculated as less than 0.80 "t" statistically significant differences between test result at P <0.05.

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Noting differences between the experimental and control group at initial testing, it shows that "t" calculated value is less than 0.51 "t" statistic at P> 0.05, and the test result is insignificant final "t" calculated the value 2.09 is greater than "t" statistic at P <0.05, resulting in significantly.

Thus, these tests confirm the fact that the training program applied experimental group had a significant contribution to the vital capacity of female students compared to control group. Confirmed by research, that the aerobic exercise has a positive influence on the functional capacity of female students and it can be said that the implementation of its specific means lessons students can make significant changes in effort capacity.

Ruffier Test

Initial testing it was found that the arithmetic mean of the experimental group values are 11.62 with a mean error of 0.25, while the control group is 11.4 with a mean error of 0.19. Final testing of the experimental group arithmetic average values reach 9.96 with a mean error of 0.38, while the control group mean values reaching 11.08 with average error of 0.22. It is noted that the experimental group was closer to the literature values model (7.13).

Differences between initial and final testing experimental group shows that "t" calculated value 5.10 is greater than "t" spreadsheet (Fisher) to materiality 0.001, demonstrating significant differences between tests. Regarding the control group value of "t" is calculated as less than 1.51 "t" statistically significant differences between test result at P <0.05.

Noting differences between the experimental and control groups at initial testing, it shows that "t" calculated value is less than .70 "t" statistic at P> 0.05, and the test result is insignificant final "t" calculated the value 2.53 is greater than "t" statistic at P <0.05, resulting in significantly.

Statistical final tests show values for the experimental group near professional model and fit the "medium" adaptation at effort. Control group's results are weaker adaptation is falling "weak" for effort. Body adapt to stress, determined using test Ruffier undergoes changes due to training. These changes are reflected in a more rapid return to normal pulse rate for subjects involved. Group confirmed the results statistic showing that the end of the experiment obtained a better adaptation to the control group effort because our proposed program with specific means aerobic gymnastics.

Sargent Test

Initial testing it was found that the arithmetic mean of the experimental group values are 103.39 with a mean error of 4.31, while the control group are 105.30 with a mean error of 3.78.

Final testing arithmetic mean values of the experimental group reached 131.07 with the average error of 4.99, while the control group mean values reach 110.85 by the average error of 4.17. It is noted that the experimental group was closer to the literature values model (127.34).

Differences between initial and final testing experimental group shows that "t" calculated value 5.38 is greater than "t" spreadsheet (Fisher) to materiality 0.001, demonstrating significant differences between tests. Regarding the control group value of "t" of 2.76 is calculated is greater than "t" statistically significant differences between test result at P <0.01.

Observing the differences between the experimental and control groups at initial testing, it shows that "t" calculated value is less than 0.33 "t" statistic at P> 0.05, and the test result is insignificant final "t" calculated the value 3.10 is greater than "t" statistic at P <0.001, resulting in significantly.

According to the literature, Sargent provides a qualitative test of the level of training they are students. Experimental group received the final test results that exceed the specific model and which employs a qualifying "satisfactory" for maximal anaerobic power. Control group also recorded significant values being included everything from "satisfactory". Given the progress in the development of the two groups arithmetic can say that the program has worked and experimental group was a better basic training to optimize functional training of female students included in pedagogical experiment

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Harvard Test

During initial testing of the experimental group arithmetic mean values are 64.43 to 1.87 average error and the control group are 66.1 with 2.12 average error. Final testing arithmetic mean values of the experimental group reached 80.01 with average error of 1.77, while the control group mean values reach 67 with a mean error of 1.89. It is noted that the experimental group was closer to the literature values model (85.46).

Differences between initial and final testing experimental group shows that "t" calculated value is greater than 6.8 "t" spreadsheet (Fisher) to materiality 0.001, demonstrating significant differences between tests. Regarding the control group value of "t" of 1.81 is calculated is lower than the "t" statistically significant differences between test result at $P < 0.05$.

Observing the differences between the experimental and control group at initial testing, shows that "t" calculated value is less than 0.58 "t" statistic at $p > 0.05$, the test result is insignificant and final "t" calculated the value 5.00 is greater than "t" statistic at $P < 0.001$, resulting in significantly.

Therefore, recovery heart rate after performing a sub-maximal effort is an indicator for fitness evolution of students female included in the experiment . Experimental group was assessed at the beginning of the experiment with an average fitness (65-79) and the final testing statistical results showed that in the range of fitness (80-99). Progress control group throughout the experiment was insignificant placing it on it was between the initial test and the average fitness (65-79).

Analyzing the results of statistically we can confirm that aerobics classes with emphasis on cardio link effectively helped the students to improve fitness.

Conclusions

Summarizing the results of the functional tests can make some assessments and observations:

1. Comparative analysis of vital capacity shows that the experimental program that was implemented during the academic year managed to change the vital capacity of female students included in the experiment increasing it to 3876 cc., A value that is closer to the specialized model.

2. Final test statistic values for Ruffier test indicates for experimental group approaching by model specialized and fit "medium" to adapt to effort. To control group results are weaker adaptation is falling "weak" for effort.

3. Arithmetical mean of the Sargent test for the experimental group exceeds the specialist model and confirms the usefulness of our program, which was a better basic training to optimize functional training of female students included in the experiment teaching.

4. Fitness assessment using Harvard test shows significant results for the experimental group between initial and final test at $P < 0.001$ while the control group is significant results at $P < 0.05$. On the value of the Student test between the two groups at final testing can be seen that the results are statistically significant at $P < 0.001$. Return of heart rate after performing a sub-maximal effort is an indicator for assessing the fitness of female students included in the experiment . Experimental group was assessed at Harvard test at the beginning of the experiment with average physical condition (65-79) and the final testing statistical results showed that in the range of fitness (80-99). Progress control group throughout the experiment was insignificant placing it on it was between the initial test and the average fitness (65-79). Analyzing the results of statistically we can confirm that aerobics classes with emphasis on cardio link effectively contributed to improving student fitness.

Analysis of the results obtained by the two groups to the functional tests, lead us to conclude that their development is good for subjects experiment with more in favor of the experimental group. Functional ability at this age is in full transformation and can be influenced by the quality of sports training. All indicators were influenced favorably functional training program applied our experiment, with significant increases for the experimental group. They must be considered premises for good development effort towards optimizing capacity of female students.

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ASPECTS REGARDING THE SPECIFIC PHYSICAL FOR STUDENTS REGISTERED TO THE BASKETBALL CLASES OF THE UNIVERSITY BUCHAREST

Aspecte privind pregătirea fizică specifică la studenţii înscrişi la cursurile de baschet din Universitatea din Bucureşti

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Abstract
Optimize the training process of basketball beginners introducing preliminary training games, and show how is possible to enhance the effort capacity at the beginners basketball players**.** Analysis of basic issues in the selection of basketball at the stage of initiation is done poorly. Findings reported at the model level basketball training novice drivers will facilitate specific training plans for 17-24 years of age.

Key words: training, beginner players, games, physical training, preliminary games basketball game tactical training.

Objectives

Analysis of basic issues in the selection of basketball at the stage of initiation is done poorly. Findings reported at the model level basketball training novice drivers will facilitate specific training plans for 17-24 years of age.

Methods

Methods of measurement and evaluation, statistical-mathematical data processing and data interpretation.

Results

Due to the various forms that it presents itself, physical training should be systematized by widening the sphere of the coverage and the priority method is used, as such : general physical training and physical training specific.

As you progress through specific training weight training increases. Specific motility control samples, applied sample of 100 subjects investigated were the number 7 and the results were statistically processed and arithmetic values were compared with the specialized model. (Table no.1).

Table no. 1. Motricity comparative results of specific model of the specialized model (n -100)

Samples		X (E.I.)	± m	X (M.S.)
Dribbling (sec.)		6,14	0,05	5,5
Pass to the wall (nr.repet./15 sec)		11,75	0,17	12
Jump shot.nr.pct./30sec.)		6,88	0,50	10
Lay up	Time	53,72	0,59	51
	Scoring points	8,29	0,17	9
	Indice de efic.	1,54	0,03	1,76
Free throw (pct.)		4,88	0,27	5
Added step (sec.)		25,7	0,41	23
All court running (sec.)		37,55	0,36	36,5

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Dribbling is the most spectacular element of the game of basketball, while asking the person who executed it perfect control of the ball. The impression of ease of players who have a good dribble is actually the result of their long practice in which they form a sufficient variety of executions. This variety of execution of dribbling it gives a high value of their game, they become very dangerous when they have the ball.

Thus, to test this we used a technical indicator to dribble through cones challenge, where the average sample has a value of 6.14 seconds, with an average error of 0.05 sec., and the average model is targeted at 5,5 seconds.

Comparing the average values of both observed that, during execution to dribbling in the sample studied is higher with 0.64 seconds. Dribbling is the technical element that allows the player to move in all directions and at any rate regime and should therefore be the most important part of early stages of learning the game of basketball. *Dribbling (sec) (Table 1, Fig. 1).*

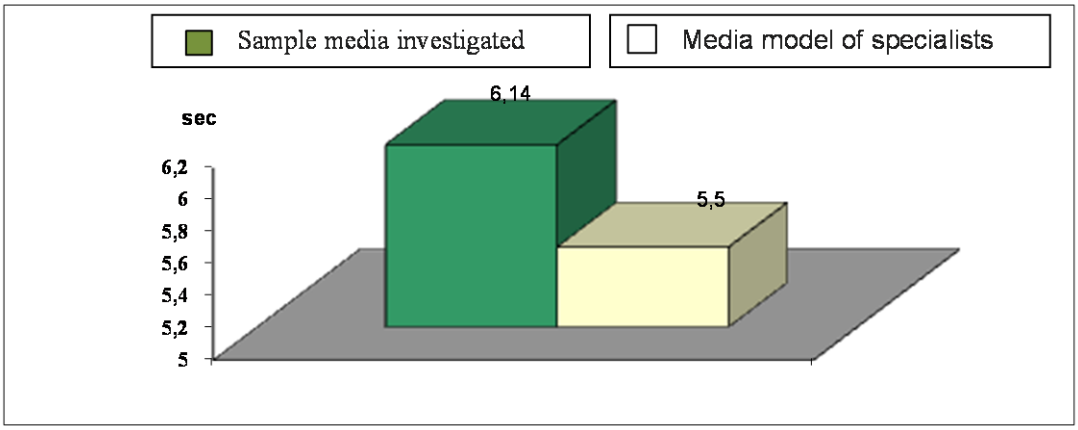

Fig.1. Motricity specific model results compared with literature. Dribbling.

Comparison of mean value of 11.75 sample investigated model replicates the average of 12.0 repetitions specialized work, we observe a smaller difference of 0.25 from the model replicates.

Analyzing the results of the sample investigated statistical calculations see an average error of 0.17 repetitions. *Pass to the wall. (no. repetitions in 15 sec) (Table 1, Fig. 2).*

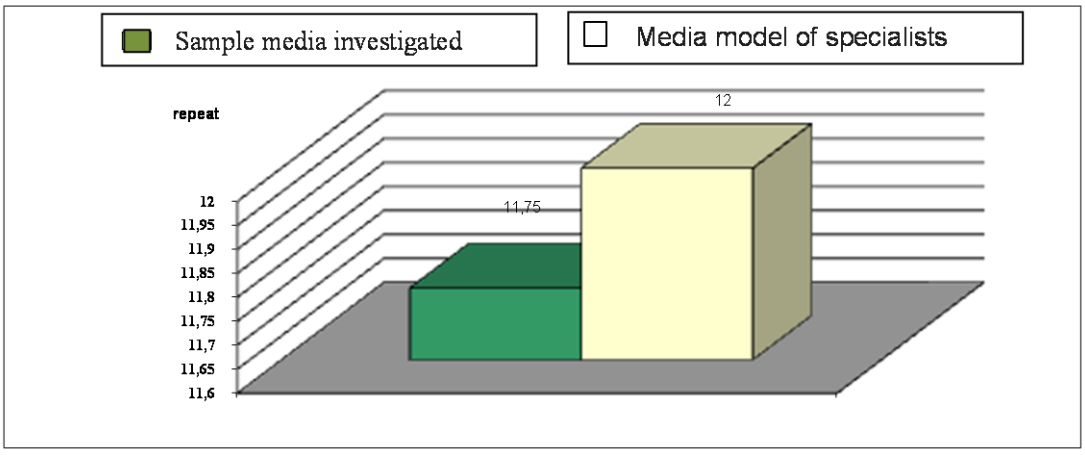

Fig. 2. Pass to the wall

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The jump shot represents a very important technique in the game of basketball, so that may be considered a good indicator of technical progress at basketball beginners. The model for the jump shot at basketball beginners groups should be 10 points scored in 30 sec.

Outcomes of the experiment the groups subject to acknowledgment to reach the 6.88 points scored with an average error of 0.50 point difference of 3.12 points for the specialty model we suggest that this indicator should be developed through various means achieving specific results by age 12-14 years. *The Jump shot (the number of sections in 30 sec.) (Table 1, Fig. 3).*

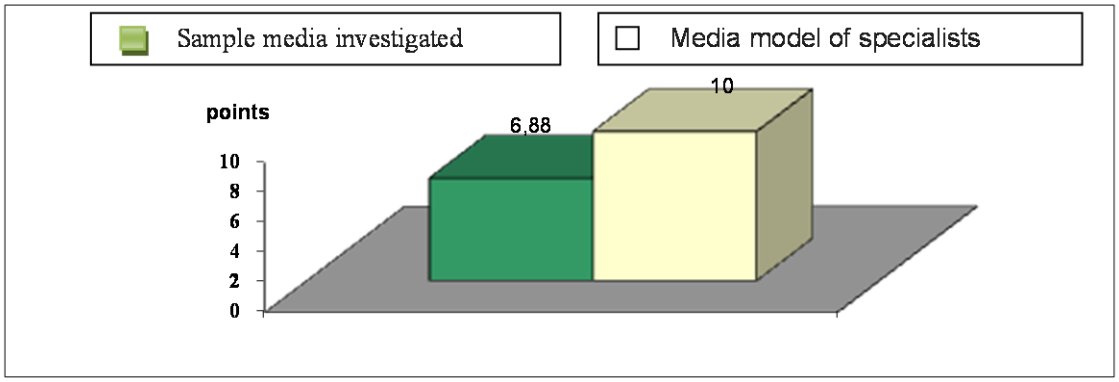

Fig. 3. Jump shot

- execution time (sec.) - investigated sample shows an average value of 53.72 seconds and the average expert model is 51.0 seconds. Comparing the average values of both observed that, during the execution of the sample studied is higher 2.72 seconds.

Analyzing the results of the sample investigated statistic indices show an average error of 0.59 sec.

- points scored (section) - reporting the average value of 8.29 points investigated sample, the average model in the specialized works of 9 points, a difference of less than 0.71 points from the model.

Analyzing the results of the sample investigated statistical calculations see an average error of 0.17 points.

- index of efficacy - the sample average of 1.54 is investigated, unlike the specialized media model is 1.76. There is a difference of 0.22 index for specific model.

From the results of statistical calculations investigated sample shows a mean error of 0.03. *Shooting from the dribble (Table 1, Fig. 4).*

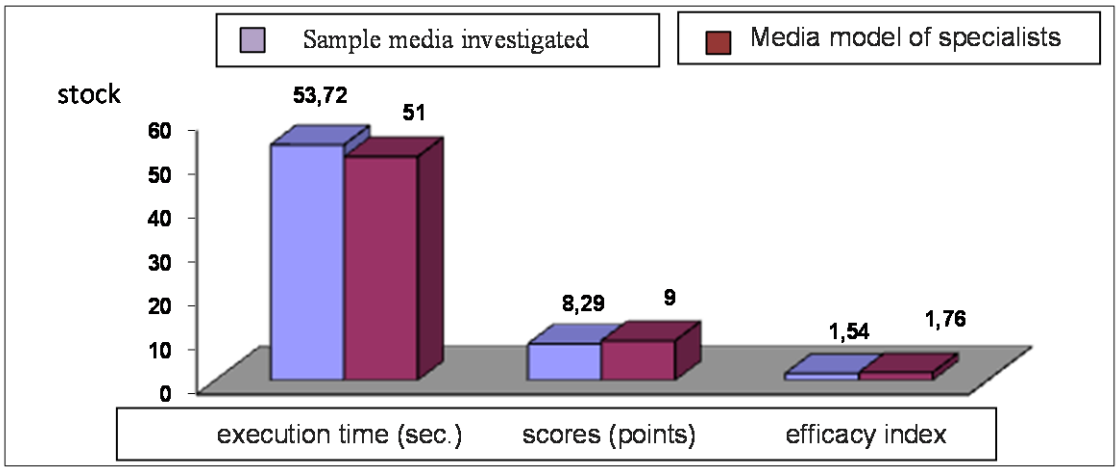

Fig. 4. Lay up

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When testing this indicator has investigated a sample average value of 4.88 points with an error of 0.27 points and the average model is 5-point specialist. Comparing the average values of the two note that the sample of free throws the score is lower by 0.12 points investigated.

Free throws are the easiest way to make, and during a basketball game can be very important to succeed in their advantage. Everything depends on the ability to concentrate and training of the player in adding a point in favor of his team. The performance of our experiment shows that under the quota contributors to this difference sample front is very specialized model magnitude, why have not insisted on this particular indicator preparing juniors. *Free throws (pct) (Table 1, Fig. 5).*

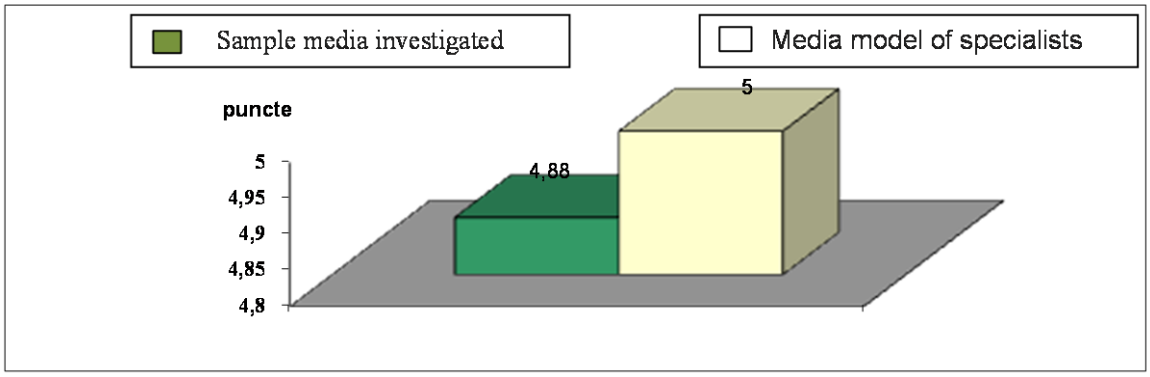

Fig. 5. Free Throws

Particularly important challenge in the technique of the player without the basketball ball-by-step movement is also included in the experiment to highlight the value of experimental groups compared with the model professional. Investigated sample average value is 25.7 seconds with an error of 0.41 sec and the average model in the specialized work of 23 seconds. We observe a difference of more than 2.7 seconds of the model.

This difference makes us believe that great need for action of the basketball practice of beginners especially towards the perfecting elements without the ball technique to obtain results close to professional models. *Go with the added step (sec) (Table 1, Fig. 6).*

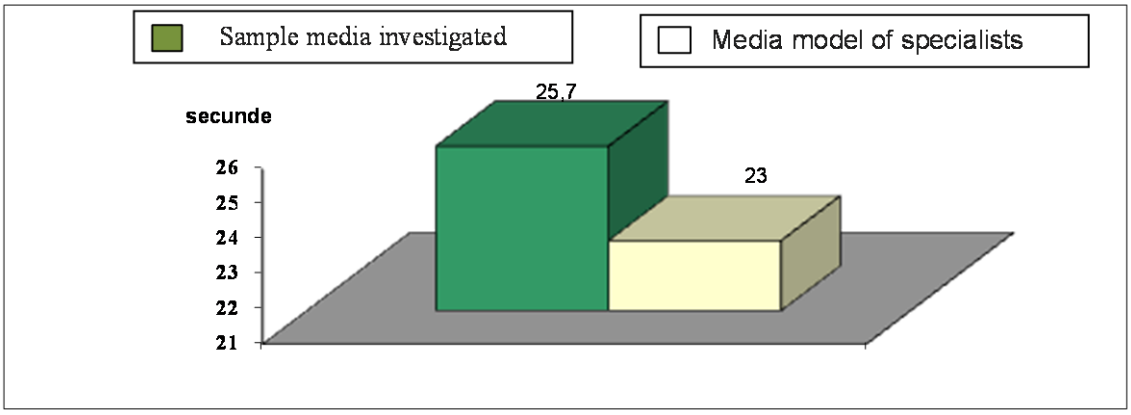

Fig. 6. Added step

Investigated sample has an average of 37.55 seconds, with an average error of 0.36 sec., unlike the specialized media model is 36.5 seconds. There is a difference of 1.05 seconds running time for specialized model. *Movement on all the court (seconds) (Table 1, Fig. 7).*

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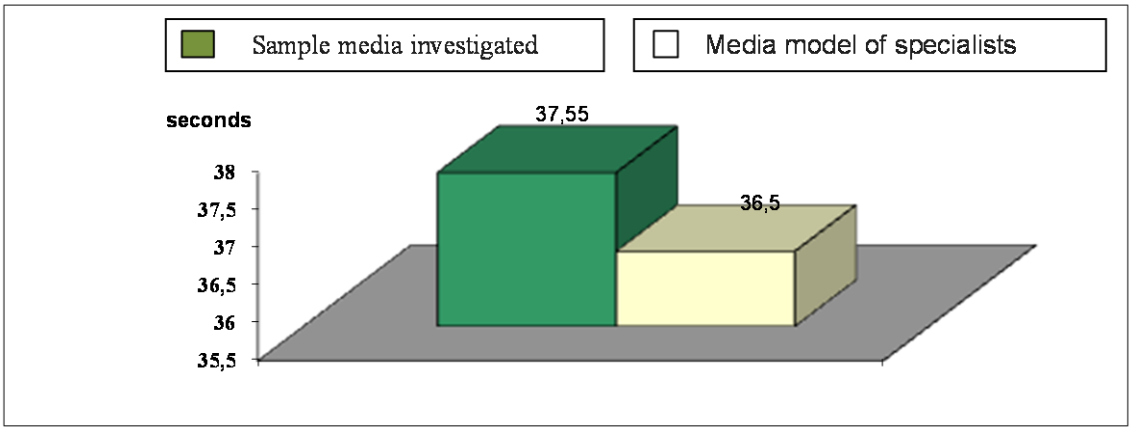

Fig. 7. All court running

Conclusions

1. Studying the evidence of specific motricity results can be seen, as in general physical training that the values obtained are below the model.

2. Insufficient development of general physical preparation adversely affects the motricity of the results of specific tests.

3. One can say that without proper training or general fitness training results will not have a technical optimum level.

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ASSESSMENT OF MOTOR SKILLS DEVELOPMENT IN PRIMARY SCHOOL STUDENTS

Evaluarea nivelului dezvoltării calităţilor motrice la elevii din ciclul primar

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Abstract.

Background. The activity of teaching-learning-assessment in primary school plays a key role in achieving the educational goals and solutions to optimize the contribution of physical education. Assessment is an important component of the didactic approach through which the teacher has the opportunity to objectively determine the effects of the instructive-educational process on the students.

Objectives. The main purpose of this paper is the use of the most efficient tools for assessing the level of motor skills development in primary school students. To this end, we intended to achieve the following objectives: launching a comprehensive action for deep information and documentation, preparation of research, carrying out of the research activity and completion of the research.

Methods. The research was conducted throughout a school year, from November 2015 to March 2016, with a group of 87 students (44 girls and 43 boys of the I-B, III-A and IV-C grades), aged 7 to 10 years, within the „Coresi" Secondary School of Târgovişte. The following methods were used in this research: study of the specialized literature, pedagogical observation, ascertaining pedagogical experiment, method of tests and sports testing events, statistical-mathematical method of results processing and graphical representation of the results. In order to assess the general motor capacity, there were applied 5 test events selected from the National School System of Assessment in Physical Education and Sport subject.

Results. The results of the study highlight the level of general motor skills development in the students aged 7-10 years (girls and boys as well) in terms of dynamics of abdominal, back and arms strength, general coordination and sense of balance during movement. The classes of physical education for these students will focus on the training situations specially created to develop the motor skills, on planning the learning units so that they also influence the development of the motor qualities needed to achieve the motor skills and on the recommendation to the students to practice independently and systematically in order to develop their strength, dexterity and endurance.

Conclusion. The use of the most effective tools for assessing the level of motor skills development in the physical education classes with 7-10 years old students contributed to the achievement of the intended benchmarks as proven by the results obtained in the sports test events.

Keywords: physical education, assessment, primary school, benchmarks, curriculum

Introduction

One of the central directions underlying the current education system as a whole is its structuring per curricular cycles, each one having specific durations and objectives for the biological and psychological assessment of the students that influence the shaping of their personality in accordance with the educational environment (Dragomir & Scarlat, 2004). Thus, the formal structure of the primary education is intersected by two curricular cycles, namely the three-year cycle of core acquisitions (including the students in preparatory grade and the students in first and second grade) and the development cycle, with a duration of four years (including the students of third and fourth grade (Order of the Minister of National Education - O.M.E.N. no. 3418/ 19.03.2013; O.M.E.N. no. 5003/ 02.12.2014).

The assessment of the school results is the totality of the instructional-educative activities that collect, organize and process the data obtained by the students following up the techniques, methods, procedures and measurement tools applied in conformity with the objectives and type of the assessment (Grimalschi & Boian, 2011). There are three types of assessment in the didactic practice (Dragomir & Scarlat, 2004): predictive (initial), formative (continuous) and summative (final) assessment.

Studying the programs of physical education for primary school and the methodological guide for the implementation of Physical Education and Sport Curriculum it can be found out that the framework objectives are identical in all four grades; the difference is made at the level of the reference objectives and the activities of learning (Dragomir & Scarlat, 2004).

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Learning and improving the basic mechanism of the skills specific to the sport branches in school curriculum (gymnastics, athletics, sports games) and also developing the specific motor skills of these sports disciplines lead to the linearly increasing development of students' motor capacity, due to the high degree of mobility of the cortical processes at this age (secondary school) and to the physical availability which also develops from one stage to another (Dumitru, 2011).

In the opinion of the specialists Cârstea Gh., Tudor V., Bota A. Sasu M. (1995), as well as other specialists, the lessons for learning and the lessons for consolidation of the basic motor skills prevail in terms of typology. The mixed/combined lessons are also prevailing; they include themes of different stages of the motor learning (primary learning, consolidation, verification) or themes of the motor traits or of the motor skills and abilities. The specific means of sports branches help to achieve the instructional-educative objectives which ensure the system of actuation for the development of motor skills (Potop & Marinescu, 2014).

Concerning the importance of physical education classes in primary education, it is worth noting the remarks made by Sorin Şerbănoiu (2002): *„at this age, the increased interest of children in movement and physical exercise is based on physiological and mental causes, which is why any diminution or limitation of motor activities has negative repercussions on body functions*".

Based on these ideas, Iulian Săvescu (2007) considers that the principle of accessibility should be taken into consideration while practicing these exercises; the relay races and the applicative circuits have the highest efficiency. Also, when choosing the exercises, it is necessary to take into consideration the motor qualities of the students, the material conditions, the homogeneity of the class, students' gender and health status etc.

Depending on the creative activity of the teacher and on the efficient adaptation to different material conditions and groups of students, there are various ways in which the training situations specific to the physical education lesson can be achieved. Therefore, in the context of these numerous variables, *„the lesson of physical education is the creation of each teacher that must reflect his or her professional knowledge and skills, as well as the particularly important ability to adapt to the concrete conditions of the didactic activity and to the particularities of the students of the class* (Methodological Guide …, 2001).

In terms of morpho-functional, mental and motor particularities of the students in the primary education, on a *morphological level* there is faster and more uniform rhythm of growth and development compared to the previous (pre-school) period (Cârstea, Gh., 1993; Badiu, T., et al, 2000; Sion, G., 2007). On a *functional level*, during this period „the first change of appearance" occurs in human ontogenesis, involving important morphological modifications and functional ones as well (Demeter, 1974; Bota, Prodescu, 1997). On a *psychological level*, the mental development of the child is predominantly influenced by its role of member of a new collectivity and the requirements of this one: systematic accumulation of the fundamentals of some sciences (including speaking, writing and calculation), behavior depending on the specifics of the school program, in the context of correct group relationships etc. (Şchiopu & Verza, 1981; Epuran & Horghidan, 1994; Cârstea, 1999). Regarding the *motor skills*, from 6 to 7 years and from 10 to 11 years (special age of the prepubertal pupils) there are availabilities for the development of some motor skills and the correct creation of the system of basic motor and utilitarian-applicative skills and abilities characterizing some sports disciplines (Cârstea, 1993); motricity is overwhelming, the capacity for motor learning is remarkable but the possibilities to assimilate new movements are reduced. Consequently, only systematic repetition integrates and stabilizes the new structure in child's motor repertoire (Dragnea & Bota, 1999).

Purpose. The main purpose of this paper is to present the most efficient tools for assessing the development level of the motor skills of the students in primary cycle.

Hypotheses of the paper: we believe that the use of the most efficient tools for the assessment of motor skills development during the classes of physical education with the students of 7-10 years old will contribute to the achievement of the intended reference objectives, as shown by the results obtained in the test events.

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Material and Method

The research was conducted throughout a school year, from November 2015 to March 2016), with a group of 87 students (44 girls and 43 boys of grades I-B, III-A and IV-C), aged 7 to 10 years, within ,,Coresi" Secondary School of Târgovişte.

The research used these methods: study of the specialized literature, pedagogical observation, ascertaining pedagogical experiment, method of tests and control events, statistical-mathematical method of results processing and graphical representation of the results.

For assessing the general motor capacity of the students under study, 6 test events selected from the National School System of Assessment in Physical Education and Sport subject (1999) were given differentially to each grade, namely: 4 tests (1, 2, 3 and 5) were given to the 1st grade, 5 tests(1, 2, 3, 5 and 6) were given to the 3rd grade and 5 tests (1, 2, 3, 4 and 5) were given to the 4th grade, as follows:

Test 1 – from supine position, torso raises with arms up in 30 sec, assessment of correct executions number;

Test 2 – from sitting down position leaning against arms backwards – raise of basin in supine position (backward) horizontally in 30 sec., assessment of correct executions number;

Test 3 – Pull-ups from hanging position on a frame (or a gym bench put on two gymnastics boxes), number of reps;

Test 4 – General coordination – Matorin test, jump with 360° turn to the right and to the left, assessed in degrees;

Test 5 - Hopscotch, assessment in seconds, penalties for stepping on the line – 2 sec;

Test 6 – Applicative circuit, assessed in sec (running through cones, roll-over, balanced walk, target throwing etc.).

Results

In table 1 and figure 1 are listed the results of the motor training in the students of "B" 1st grade, both girls and boys, regarding the assessment of abdominal strength, back strength, arms strength and coordination.

Table no.1. Results of motor training of the "B" 1st grade students

Statistical indicators	Test 1 - Tr. raises, (reps no)		Test 2 - Tr. Ext., (reps no)		Test 3 Arms strength - reps no		Test 5-hopscotch, (sec)	
	girls	boys	girls	boys	girls	boys	girls	boys
Mean	11.21	12.25	13.64	14.00	11.57	13.75	6.76	6.95
SEM	0.91	0.68	0.78	0.5	0.42	0.43	0.16	0.46
SD	3.42	2.72	2.92	2.00	1.55	1.73	0.58	1.83
Cv%	30.53	22.21	21.44	14.28	13.44	12.59	8.66	26.34
N	14	16	14	16	14	16	14	16
t, P	0.923; >0.05		0.395; >0.05		3.603; <0.01		0.386; >0.05	
F, P	1.584; >0.05		2.138; <0.15		1.241; >0.05		9.799; <0.001	

Note: t-Test (Assuming Equal Variances), Unpaired Comparison for Means, F-Test for Equal Variances; Significant – P<0.15;

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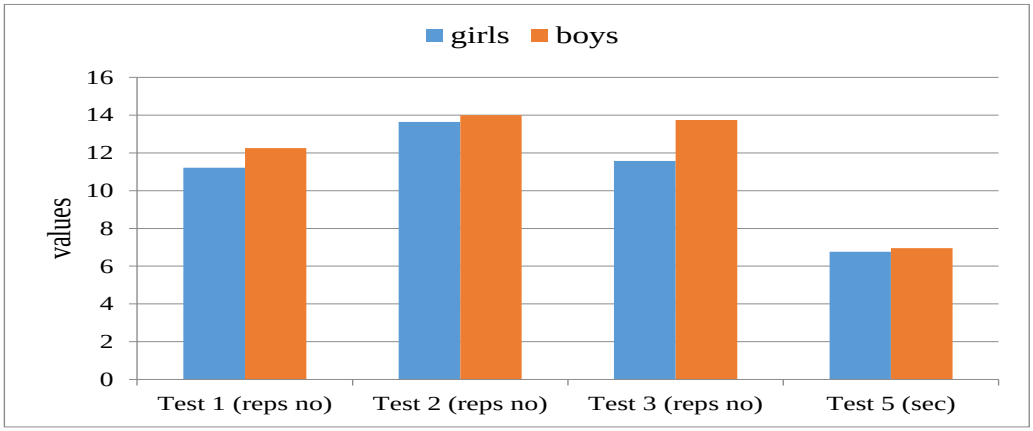

Fig. 1. *Results of motor training of the „B" 1st grade students*

Table 2 and figure 2 show the results of the motor training of the students of the "A" 3rd grade, in girls and boys as well, in terms of assessment of the abdominal strength, back strength, arms strength, movement balance and endurance.

Table no. 2. Results of motor training of the "A" 3rd grade students

Statistical indicators	Test 1- Tr. raises, (reps no)		Test 2 - Tr. Ext., (reps no)		Test 3 - Arms strength, (reps no)		Test 5 – hopscotch, (sec)		Test 6 – Appl. circuits, (sec)	
	girls	boys	girls	boys	girls	boys	girls	boys	girls	boys
Mean	14.78	13.06	18.43	15.68	14.79	15.5	5.92	5.94	68.78	57.81
SEM	0.82	0.77	0.62	1.01	0.57	1.08	0.18	0.06	2.41	2.62
SD	3.07	3.08	2.31	4.06	2.12	4.32	0.67	0.25	9.03	10.46
Cv%	20.75	23.63	12.54	25.89	14.33	27.87	11.25	4.29	13.14	18.09
N	14	16	14	16	14	16	14	16	14	16
t, P	1.529; >0.05		2.226; <0.05		0.561; >0.05		0.136; >0.05		3.051; <0.01	
F, P	1.012; >0.05		3.088; <0.05		4.158; <0.01		6.803; <0.001		1.339; >0.05	

Note: t-Test (Assuming Equal Variances), Unpaired Comparison for Means, F-Test for Equal Variances

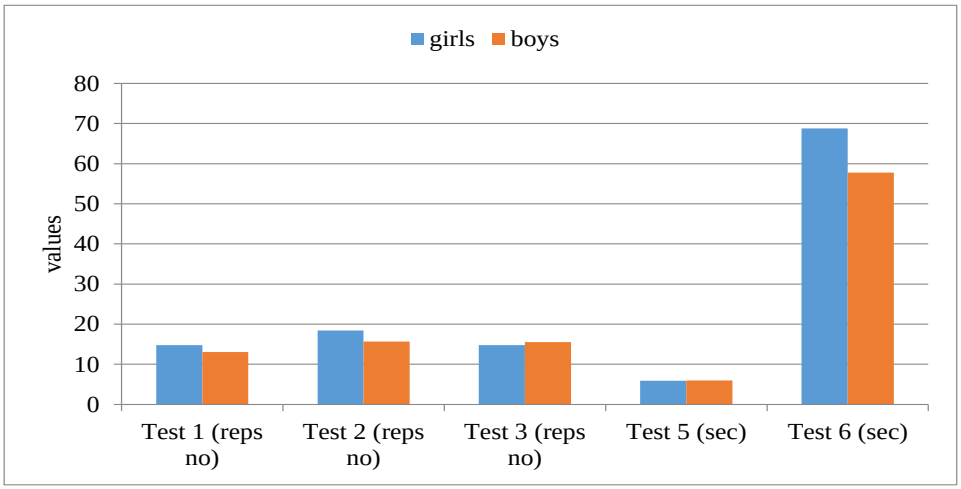

Fig. 2. *Results of motor training of the„A" 3rd grade students*

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Table 3 and figures 3 and 4 show the results of the motor training of "C" 4th grade students, girls and boys as well, regarding the assessment of abdominal strength, back strength, arms strength, coordination and movement balance.

Table no. 3. Results of motor training of the „C" 4th grade students

Statistical indicators	Test 1 – Tr. raises, (reps no)		Test 2 - Tr. Ext., (reps no)		Test 3 – Arms strength, (reps no)		Test 4 - Matorin, (degrees) right		left		Test 5 – hopscotch, (sec)	
	girls	boys	girls	boys	girls	boys	girls	boys	girls	boys	girls	boys
Mean	16.75	18.82	17.94	19.54	17.75	19.45	259.4	328	250.6	301.4	5.61	5.84
SEM	0.76	0.76	0.45	0.93	0.48	1.06	11.53	7.78	14.99	10.05	0.14	0.05
SD	3.04	2.52	1.81	3.08	1.91	3.53	46.11	25.79	59.99	33.32	0.57	0.17
Cv%	18.17	13.40	10.07	15.75	10.78	18.15	17.78	7.85	23.94	11.06	10.32	2.94
N	16	11	16	11	16	11	16	11	16	11	16	11
t, P	1.855; >0.05		1.713; >0.05		1.623; >0.05		4.503; <0.001		2.538; <0.05		1.277; >0.05	
F, P	1.456; >0.05		2.903; <0.05		3.402; <0.05		3.1952; <0.05		3.2415; <0.05		11.347; <0.001	

Note: t-Test (Assuming Equal Variances), Unpaired Comparison for Means, F-Test for Equal Variances

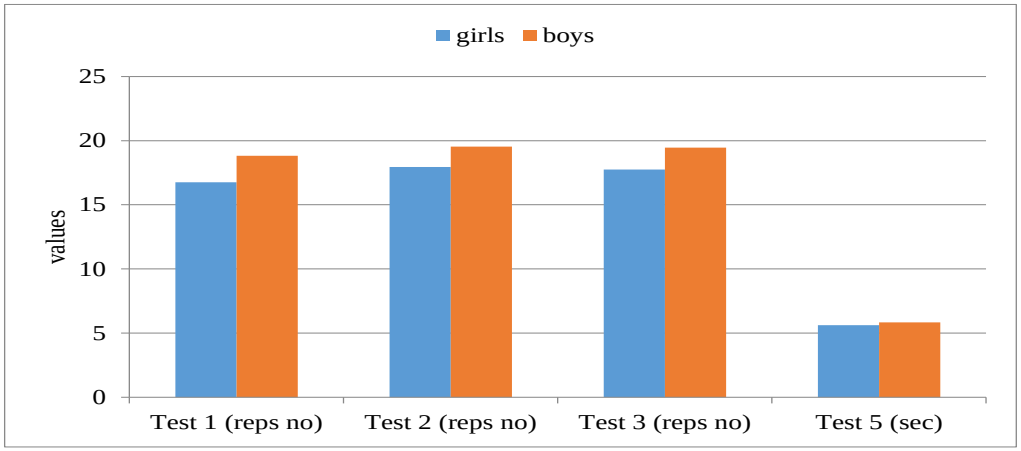

Fig. 3. *Results of the motor training of "C" 4th grade students*

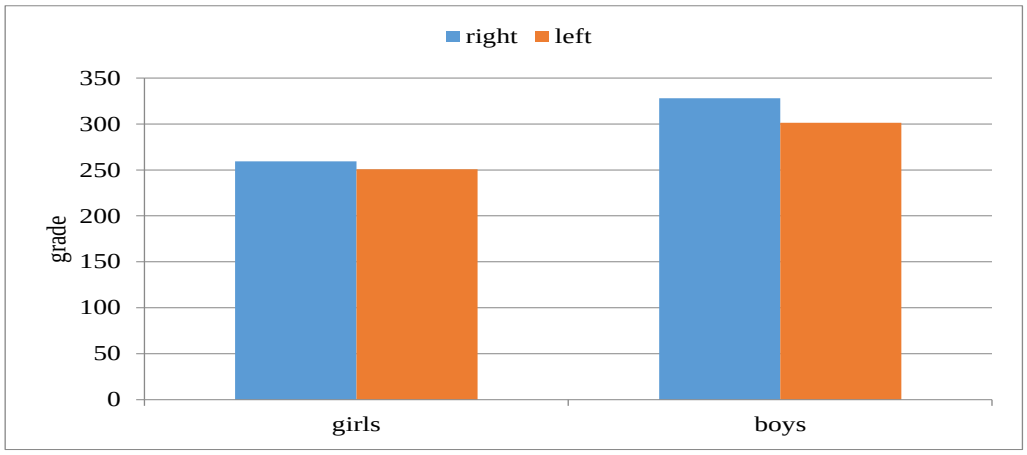

Fig. 4. *Test 4 - Matorin*

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Discussions

School physical education and sport have experienced a comprehensive and sustained upgrading program over the last decade. More and more theoretical ideas, strongly anchored in school and educational issues, have been reported in numerous studies and papers; many of them have been integrated into teaching practice (Miller, 2006; Haynes & Miller, 2015; Chan, Ha & Ng, 2016; Chen, Mason, Hypnar & Bennett, 2016).

The activity of teaching – learning – assessment in the primary school grades plays an important role through its benefic influence on the development and strengthening of the body and as a teaching tool meant to favor the knowledge of children, their faster adaptation to the new requirements of the didactical approach, the assimilation of knowledge fundamentals, the creation of an active environment of work, good understanding and mutual help (Hands, & McIntyre, 2015; Potop & Jurat , 2017; Potop, Uricanu & Jurat, 2018).

The analysis of the results of motor training of the „B" 1st grade students presented in table 1 and fig. 1 highlights the following matters (mean; ±SD, girls, n=12 and boys, n=16): in test 1, regarding the abdominal strength assessed by torso raises, there is a mean of 11.21; ±3.42 no of reps in girls and 12.25; ±2.72 no of reps in boys, with poor homogeneity in both genders and insignificant differences between groups at $p>0.05$; in test 2, regarding the back strength assessed by torso extensions, there is a mean of 13.64; 1.55 no of reps in girls and 14.00; ±2.00 no of reps in boys, with moderate homogeneity and insignificant differences at $p>0.05$ and a significant tendency F at <0.15; in test 3, concerning arms strength assessed by hanging pull-ups, there is a mean of 11.57; ±1.55 no of reps in girls and 13.75; ±1.73 no of reps in boys, with moderate homogeneity and significant differences between groups at $p<0.01$; in test 5, regarding the hopscotch, assessed by covering a route by jumps, there is a mean of 6.76; ±0.58 sec in girls and 6.95; ±1.83 sec in boys, moderate homogeneity in girls and poor one in boys, with significant differences at F test $p<0.001$.

The review of the results of motor training in „A" 3rd grade students, as shown in table 2 and fig. 2, reveals the elements as follows (mean; ±SD, girls, n=12 and boys, n=16): in test 1, a mean of 14.78; ±3.07 no of reps in girls and 13.06; ±3.08 nr. no of reps in boys, with poor homogeneity in both genders and insignificant differences between groups at $p>0.05$; in test 2, the values are 18.43; ±2.31 no of reps in girls and 15.68; ±4.06 no of reps in boys, with moderate homogeneity and significant differences between groups at $p<0.05$; in test 3, the values are of 14.79; ±4.32 no of reps in girls and 15.5; ±4.32 no of reps in boys, with moderate homogeneity and significant differences between groups at $p<0.01$; in test 5, the values are of 5.92; ±0.67 sec in girls and 5.94; ±0.25 sec in boys, with high homogeneity and significant differences at F test $p<0.001$; in test 6, regarding the covering of an applicative circuit, there are values of 68.78; ±9.03 sec in girls and 57.81; ±10.46 sec in boys, with moderate homogeneity and significant differences between groups at $p<0.01$.

The review of the results of motor training of „C" 4th grade students, listed in table 3 and fig. 3 and 4, highlights the following elements (mean; ±SD, girls, n=16 and boys, n=11): in test 1, there is a mean of 16.75; ±3.04 no of reps in girls and 18.82; ±2.52 no of reps in boys, with moderate homogeneity and insignificant differences between groups at $p>0.05$; in test 2, there is a mean of 17.94; 1.81 no of reps in girls and 19.54; ±3.08 no of reps in boys, with moderate homogeneity and significant differences between groups at F test at $p<0.05$; in test 3, there is a mean of 17.75; ±1.91 no of reps in girls and 19.45; ±3.533 no of reps in boys, with moderate homogeneity and significant differences between groups at F test at $p<0.05$; in test 4, regarding Matorin test assessed by jumps with 360 degrees turn to the right there are values of 259.4; ±46.11 degrees in girls and 328.0; ±25.79 degrees in boys while at the turn to the left there are values of 250.6; ±59.99 degrees in girls and 301.4; ±33.32 degrees in boys, poor homogeneity in girls and moderate one in boys and significant differences between groups at $p<0.05$; in test 5, the values are of 5.61; ±0.57 sec in girls and 5.84; ±0.17 sec in boys, high homogeneity and significant differences at F test $p<0.001$.

The lessons of physical education with the students of 7 to 10 years old aimed at designing special training situations to be included in the lesson structure, meant to develop the motor skills. These lessons focused on planning the learning units so that they also influence the development of the motor qualities needed

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to achieve the skill; the students were advised to exercise systematically and independently in order to develop the strength, dexterity and endurance.

Conclusions

The results of the study reveal the development of general motor capacity in the students of 7-10 years old, girls and boys as well, regarding the dynamics of abdominal, back and arms strength, general coordination and sense of balance during movement.

The use of the most efficient tools for assessing the level of motor skills development within the physical education lessons with 7-10 years old students contributed to the achievement of the proposed reference objectives, as shown by the results recorded in the test events.

Acknowledgment

This paper is part of the doctoral paper of the first author; it is included in the subjects of the research program of the Faculty of Physical Education and Sport of the Ecological University of Bucharest for 2017 – 2018. We express our gratitude to Professor PhD. Marinescu Susana for the support and help to achieve this experimental study.

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ORIGINAL ASPECTS REGARDING THE MONITORING OF THE EFFORT OF STUDENTS FROM THE UNIVERSITY OF BUCHAREST, WITHIN THE LESSONS OF MOUNTAIN SPORTS ACTIVITIES

Aspecte originale privind monitorizarea efortului studenţilor Universităţii din Bucureşti, în cadrul lecţiilor de Activităţi Sportive Montane

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Abstract

Benefiting from numerous educational and formative valences, mountain sports activities combine a range of physical and intellectual qualities that give it a privileged status among free-time motor activities. It is a sport that involves low costs of organizing and participating in competitions, being suitable for both sexes and for all ages.

This discipline, shortly introduced in the DEFS 'curriculum, responded to a need to diversify the socio-educational interests of university of Bucharest` students.

Through its specific objectives and tasks, mountain sports activities contribute to the psycho-somatic and social development of practitioners, becoming in the last year one of the most beloved sport disciplines in the curricular area at the students' disposal.

The present paper, through its content and its approach, aims to highlight the main aspects of the specific effort, registered during the mountain applications in the academic year 2017-2018. The obtained data are based on objective, efficient and modern monitoring, used for the first time at the level of non profile higher education, thus providing an overview of the specific demand for these activities.

Keywords: monitoring, mountain sports activities, students

Introduction

Modeling the personality of the young generation has always been a concern of great interest in the human community. The formation of modern man implies its development from a physical, mental, aesthetic, moral point of view, etc., in other words a multilateral development in relation to the demands of contemporary society (Dumitrescu R., 2013).

The obvious increase in the role of education in the development of young people implies the increase of the activities through which this can be achieved, respecting the methodology, the content and the objectives proposed at this level. It is appreciated that free time activities can be a means of educating the personality of the young people in training, for this purpose it is possible to develop training programs that will cultivate, honesty, respect for the own sentiments, care for others and the self-discipline (Moldovan, E., 2007).

Use of leisure time poses a delicate problem, especially for the younger generation, which must be oriented towards profitable long-term activities, instead facile or dangerous distractions (Bota, A., 2006).

For the younger generation, mountain sports activities, such as mountain tourism, are a way of spending leisure time in nature, with important physical and psychic effects.

Vîlcu, M., (2013) quoted by Dumitrescu R., (2013), says that after a study in New Zealand, it was concluded that people who go to the mountains frequently are more optimistic than the others and more than they have a greater concentration and synthesis capacity. This is due to the mountain, because the mountain helps to observe what is really important in life and it helps in making logical and rapid decisions in extreme situations.

In walking a mountain trail, the physiological effort is much more intense than the one experienced to the plain because the body is exposed to a bioclimate where the atmospheric pressure decreases by 11-12 mmHg for every 100 m altitude, reaching 760 mmHg , in conditions of 580 - 600 mmHg at the altitude of 2000m (Bucegi Mountains Plateau). As far as the atmospheric O_2 pressure is concerned, it represents at the altitude of

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2000m only 15.8% of the air volume compared to 20.95% at the seventh. The air temperature decreases as we rise vertically by about 0.5^0C for every 100m, winter, and summer with 0.7^0 C in the summer (Dragan, I., 1989).

WORKING METHOD AND INTERPRETING THE DATA PROVIDED BY THE SUUNTO – SYSTEM

In 1933 the company's founder, Tuomas Vohlonen, a surveyor by profession, applied for a patent for a unique method of filling and sealing a lightweight compass housing made entirely of celluloid and filled with liquid to dampen the needle and to protect it from shock and wear due to excessive motion.

The electronic device SUUNTO for effort monitoring (Fig. no. 1) provides the ability to record the effort parameters, and the information can be downloaded to the PC, where through the www.movescount.com website, all this information is read in very easy-to-read graphs understood and pursued.

Fig. 1. Electronic device for training monitoring

Operational and methodological framework

The purpose of research: aims to highlight the main aspects of the specific effort, registered during the mountain applications in the academic year 2017-2018. For this research, 6 subjects, students of the University of Bucharest, who participated in the 3 mountain applications provided in the DEFS educational plan, were monitored as follows:

1-Group I 17-19.11.2017;
2-Group II 24-26.11.2017;
3-Group III 8-10.12.2017.

Materials and Methods

Observation method:

Through its content and many forms of presentation, observation is one of the most appropriate methods to explore the natural environment. As a scientific method of research, it consists in "tracking deliberately, carefully and methodically the aspects of facts, processes, events and the accurate and systematic recording of their various manifestations, as they behave in natural, normal conditions, in order to present them in their essential aspects in an existing situational context" (Niculescu, 2002).

The actual monitoring of the subjects of the selected subjects was done by using the SUUNTO electronic device throughout the daily practical activity provided in each application. Although the monitoring was carried out in an individual manner, the results obtained could be extrapolated, within certain limits, to the activity of the entire group of students, given that the objectives and tasks specific to each activity were fulfilled under the same organizational and methodological conditions.

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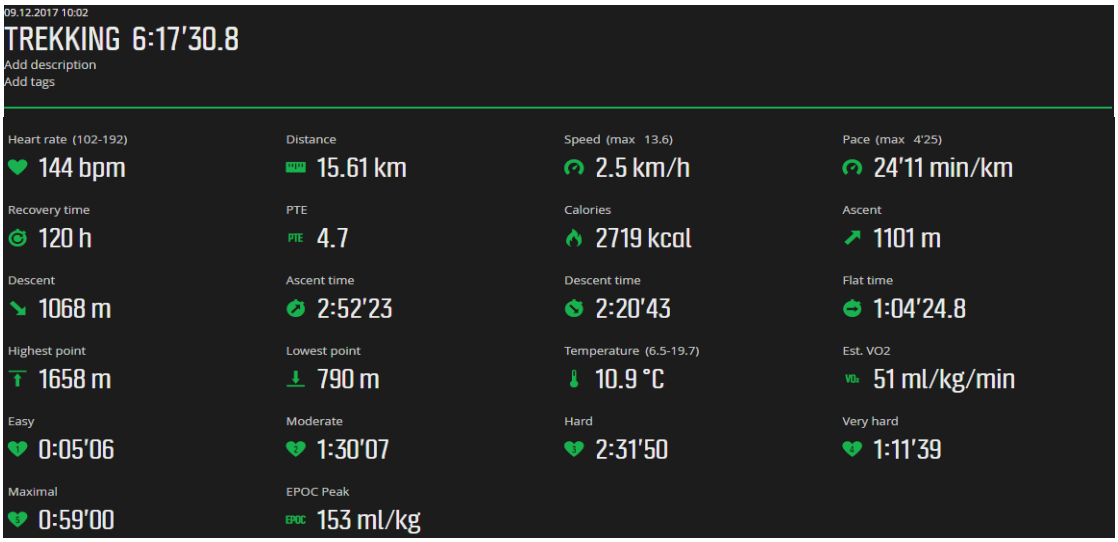

Fig. 2. Parameters of physical effort

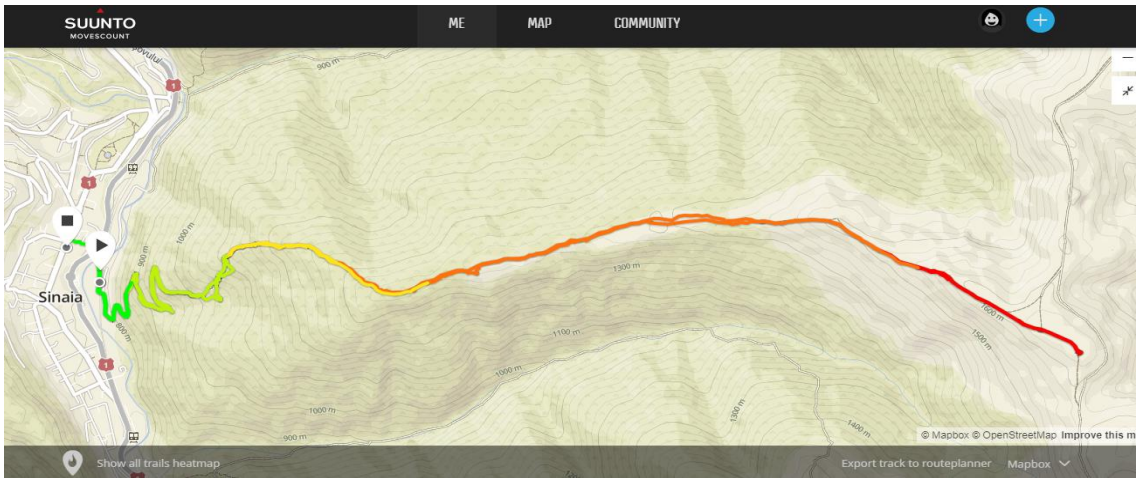

Fig. 3. Route map

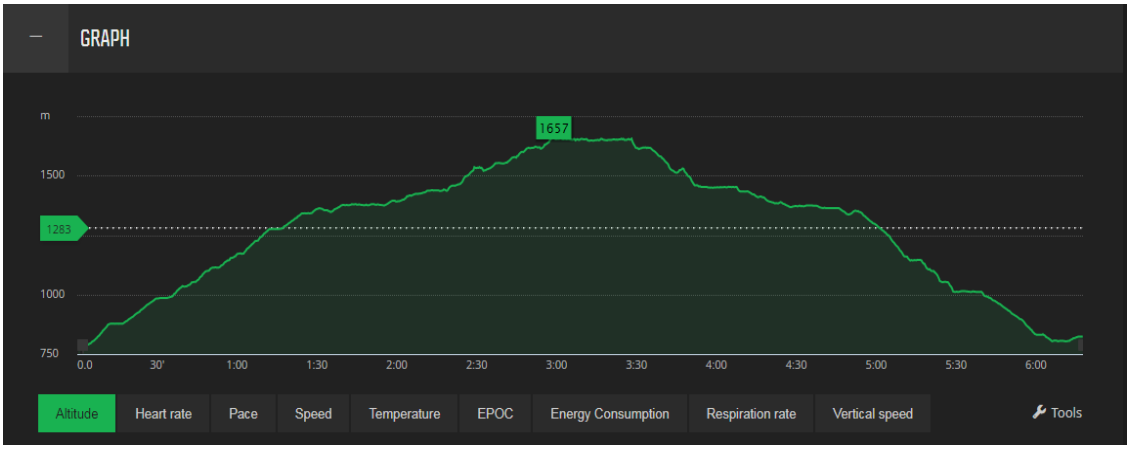

Fig. 4. Altitude chart

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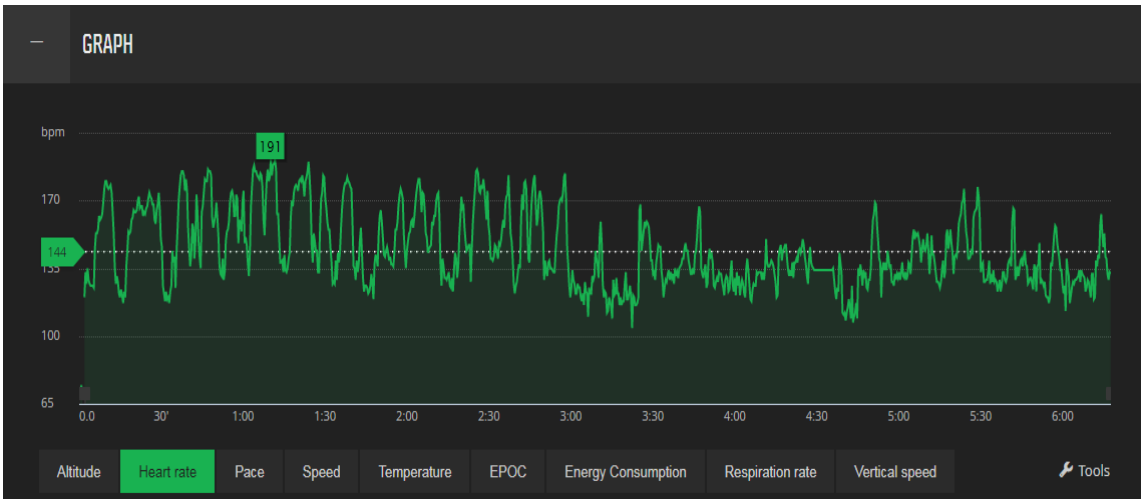

Fig. 5. Heart rate

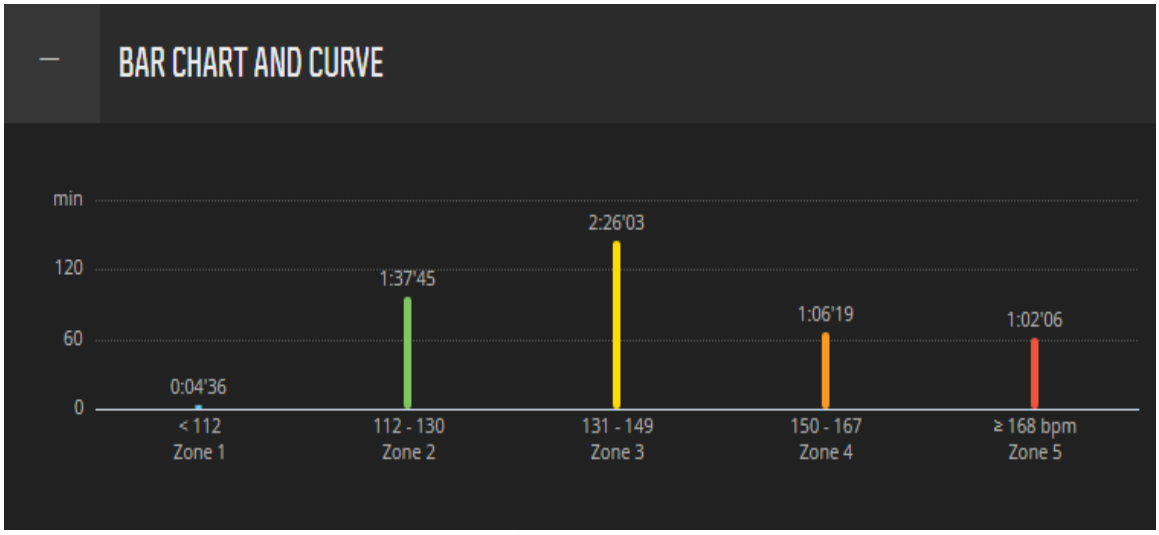

Fig. 6. Heart rate zone

Table no. 1. Effort parameters

Effort parameters				
	Km	m/ vertical	Time/hours	Kcal
Group I	25.13	1733	9.47	4408
Group II	22.1	1234	10	3184
Group III	25.67	1656	10.27	4405

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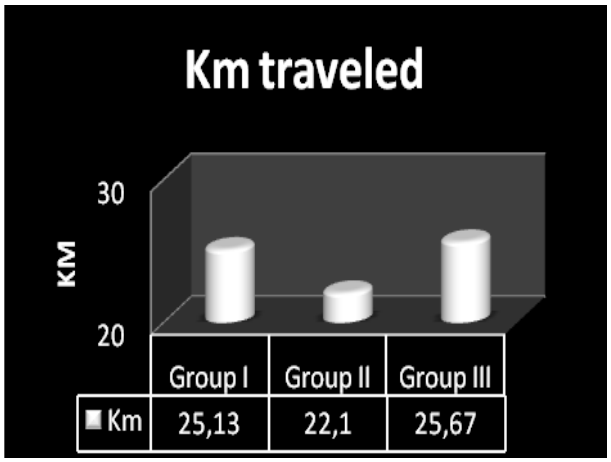

Fig. 7. Km traveled

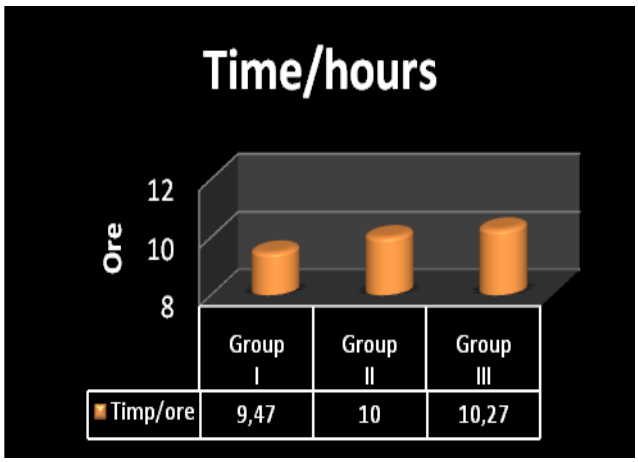

Fig. 8. Time / hours

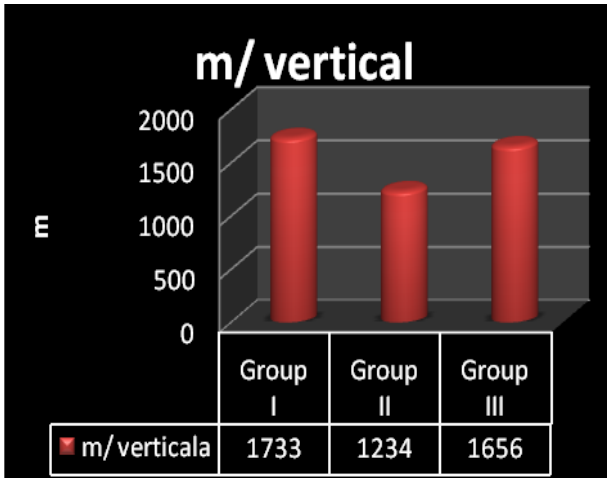

Fig. 9. m/ verical

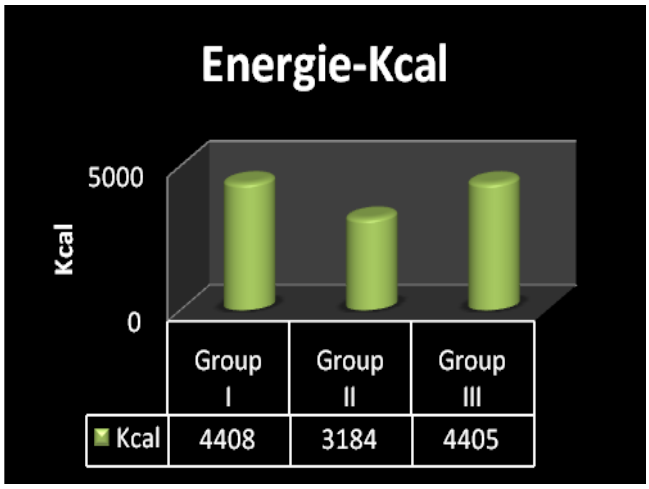

Fig. 10. Energi- Kcal

Conclusions

The analysis and interpretation of the obtained results highlights the fact that during the three mountain applications, the specific requirements of this discipline are at a higher level compared to other types of leisure activities, especially due to the particular conditions of development (environment, duration, equipment, etc.)

Of the many monitored functional parameters, aspects related to heart rate, duration, distance, level difference and energy consumed are of particular interest, especially in terms of evaluating both the specific tasks of each application and the particular physical condition of the subjects involved .

The scientific approach developed and analyzed above highlights original aspects regarding the importance and opportunity of using modern and efficient means of monitoring the parameters of the effort specific to the various types of motoric activities. Moreover, the information provided by the device used in this research contributes to the optimization of the planning and programming strategy of the practical activity of the students enrolled in mountain sport acivities discipline, taking into account both the specific effort characteristics and the morpho-functional particularities of direct beneficiaries.

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MANAGEMENT STRATEGIES FOR IMPROVING THE SYSTEM OF PHYSICAL EDUCATION IN SCHOOL

Strategii manageriale de optimizare a sistemului de educaţie fizică şcolară

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Abstract
Building and maintaining student interest in the movement and exercise are priority tasks of physical education teacher.
Objectives. In this regard, we have proposed lines of research, methods of optimization of educational process organization based physical education lessons using athletic training means.
Methods. The methods used in the research are: observation method, with which we evaluated the effects of systematic physical education teaching method used to present concrete demonstration exercises collective experiment method; data comparison method, the measurement method and the results of the test subjects;
Results. Special training programs athlete greenhouse multilateral training took into account mainly the composition and organization of cycles of lessons that were based on a number of objective and subjective factors related to growth processes and phenomena functional of schoolchildren.
Conclusion. Studying theory and practice of educational process of physical education in the secondary school shows that so far curricula contain general elements and not oriented well established for such trainings with very few embodiments enabling a progressive development functional parameters of students.

Keywords: system, strategy, physical education, school, method

Introduction

Physical education has a predominantly biological character and important valences on social and cultural-educational plans.

Like all other disciplines, physical education tries by all means and means to improve the content of the activity in order to achieve the immediate and long-term goals. It goes without saying that the traditional curriculum of physical education needs to be adapted and improved due to the evolution of society and new demands, and thus older teaching concepts must be reoriented in the sense of responding to the current social order (Cerghit, I., 1983).

Forming and maintaining students' interest in movement and physical exercise are the primary tasks of the physical education teacher. In order to accomplish these, the teacher has to demonstrate good professional and specialist training, general culture, creativity, intelligence and managerial capacity, in full agreement with the desire for exercise and physical effort of children and pupils as a result of physiological development.

In this sense, we have proposed as research directions, the methods of optimizing the instructional-educational process based on the organization of the physical education lessons using the means of athletic training. Stimulating and directing the process of educating the pupils' interest in using the means of sports training is one of the major objectives of the instructive-educational process (Cîrstea, Gh.,1999).

At present, physical education lessons can no longer be fully realized on the basis of traditional school curricula and the traditional teaching concept, which has primarily been geared towards the formation of motor skills and skills and the development of motor skills. Moreover, the teaching-learning-evaluation activity has a reproductive character, being standard and lacking in creativity.

During physical education classes, athletics, through precise and well-conceived teaching, makes a substantial contribution to this task (Ardelean, T., 1979). The student can be initiated in the game of athletics in the form of a game, practicing almost the same evidence that athletes, but without achieving the same intensity or technical efforts and without dedicating them for so long. On the other hand, there are also differences in

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certain dimensions, weights and distances. The combined tests, in addition to ensuring multilateral athletic training, contribute to the formation and development of group relationships, team spirit, homogeneity and solidarity, the will to overcome other character traits of athletes and students. Walking and running, jumping and throwing are the main components of athletics, judiciously integrated into the physical education lesson.

Research hypothesis

The use of physical means of athletic training with multilateral training effect will have a major positive influence on the optimization of the educational-educational process of physical education, by implementing new ways of approaching the contents of the primary stage. They will contribute to:

- increasing the level of physical and functional training;
- improving skills and competence skills
- Increasing interest in physical education discipline.

The purpose of the research

It is the optimization of the instructive-educational process by using the means of athletics in the physical education lesson.

Research objectives

1. Studying and generalizing the specialized literature on the problem of improving the educational process in the discipline of physical education by using the specific means of athletics;

2. Determining the effectiveness of the physical education lesson by applying the specific means of athletics;

3. Determining the content of multivariate means, methods and forms of multivalve training aimed at polyvalent athletic training, according to the specifics of the physical education lessons at the level of the primary stage.

4. The experimental argumentation of the effectiveness of the application of the polyvalent athletic training methodology in the physical education lessons with the pupils of the primary stage.

Organization of the research took place within hours of physical education at Secondary School No. 2. This school has a very good material basis sufficient for pursuing research at a high level and an activity suitable teaching conditions. The school population is numerous, so that the sample of students who were tested and on which it was oriented experiment is considered as enlightening. Experimental groups were formed and a control group each amounting to a total of 50 students. Testing took place on the basis of two sets of tests consisted of 6 samples with indices functional and 6 samples with indices of technical and physical forms: the height, perimeter of the chest and dynamometer (left and right), vital capacity, and Ruffier test, running of resistance 600m and 2000m, running speed on the 30m and 60m
, throwing medicinal (2 kg), lifting the trunk of lying in sitting (abdomen 30 "), commute or play movement.
Basic research has been conducted between the years 2013 - 2016 in three stages, as follows:

The first stage (2013 - 2014), which is the finding, is based on the data from the organized observation and the comparison of the results obtained at the initial testing.

I watched the way in which lessons, pupils, how they respond to requests, and which of the proposed means is most adherent to them.

We have found that in order to achieve significant progress on general motricity, for normal growth and development of the organism, methods and forms of organizing and conducting physical education lessons are precisely targeted towards these objectives and perfectly adapted to the specific morpho-functional particularities of each category of age.

From our findings it has been departed the idea that, unfortunately, the means of training specific to athletics are not used in an organized way although there are material conditions in which they can practice.

The second stage (2014-2015) was the basic experiment which referred to the elaboration of a special program containing methods and means with multilevel athletic themes and its application on a number of 50 pupils aged 8-10 years.

The way in which the experimental and control groups were made was random (Epuran, M., 1995) and then the students were initially tested, intermediate and final.

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Students in the experimental group performed their physical education classes on the basis of a specially developed curriculum, while the control group of a total of 50 pupils of the same age worked at hours after the usual half-year curriculum.

In this way I had the opportunity to capture the consequences of some interventions that have been carried out along the way and the trends of evolution of the respective methodologies.

The third stage (2015-2016) was the completion of our research, in which the statistical data were processed and interpreted, the conclusions and the appreciation of the elaborated method were formulated.

Results

The human organism is unitary in its composition, functioning and development. By virtue of the natural reciprocal conditioning between its organs and systems, it exists, functions and develops as a unitary one in such a way that progress in a desired direction is in some dependence on progress in other directions.

The special program of training with multilateral training effect was mainly concerned with the design and organization of lesson cycles that were based on a series of objective and subjective factors related to the growth processes and morpho-functional phenomena of the school.

For the purpose of measurement and testing, under standard conditions of the sample we set up, using two test batteries, we aimed to highlight the evolution of anthropometric, motor, functional and technical training parameters.

The morpho-functional tests and the special technical and physical training performed during the pedagogical experiment and their comparison demonstrate that the level of effort capacity and registered parameters are progressively dynamic, the results obtained by the experimental group being superior to the control group in all test categories .

This phenomenon arises as a result of the effectiveness of the special program of polyvalent athletic training based on educational content with multilateral training effect.

The comparative analysis of the arithmetic mean of the two groups at the initial and final moments of the experiment at the functional indexes and the physical condition assessment provides the following data:

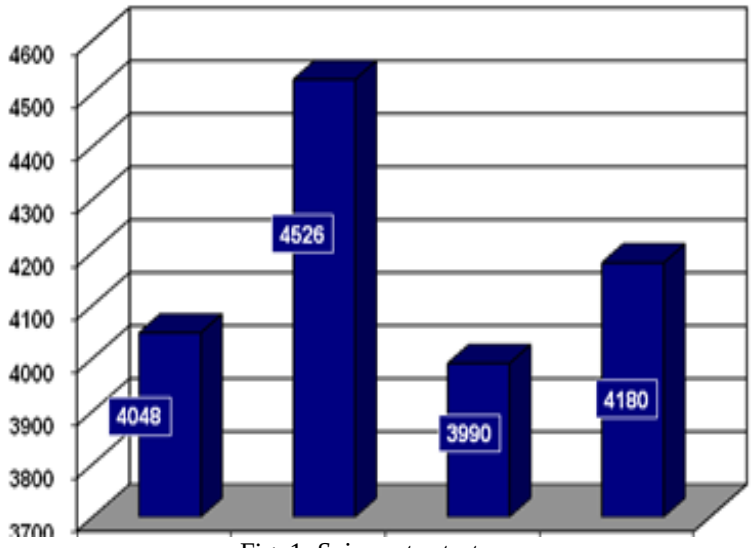

Fig. 1. *Spirometry test*

Spirometry shows almost equal numbers in the initial testing: 4048 cm^3 in the experimental group and 3990 cm^3 in the control group. In the final test, the experimental group had an average of 4526 cubic centimeters (3426 cubic centimeters) higher than the 4180 cc. of the control group with an increase of only 190 cm^3.

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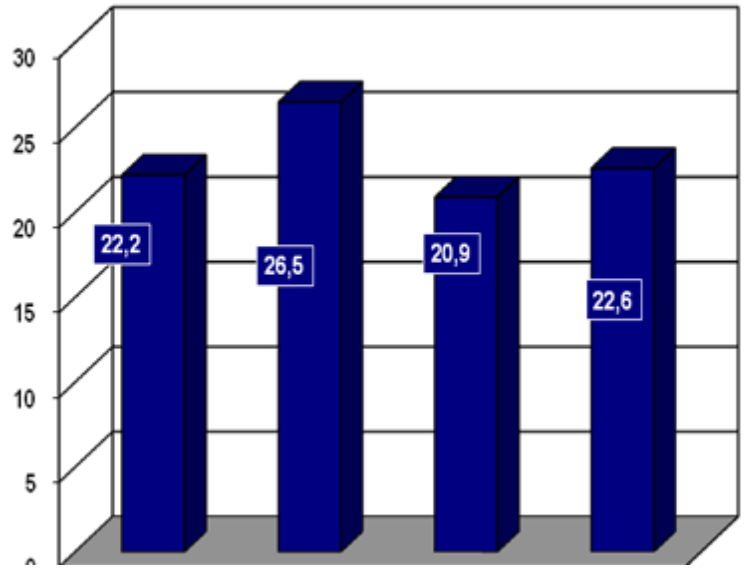

Fig. 2. *Dynamic right hand*

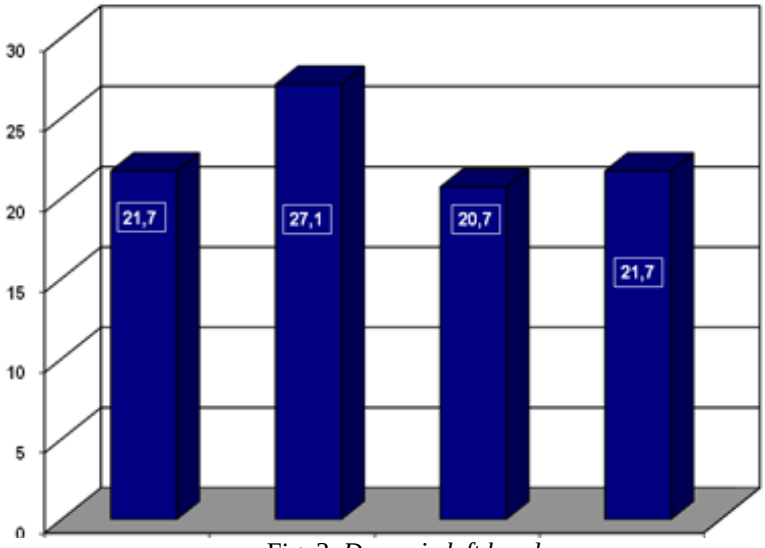

Fig. 3. *Dynamic left hand*

The dynamometric test is recorded at the initial test of the experimental group 22.2 kg. f in the right hand and 21.7 kg. f. to the left, of 20.9 kg. f and 20.7 kg. f. respectively. of the witness group. Final testing shows an increase of 4.3 kg. f. in the right hand and 5.4 kg. f. to the left of the experimental group of only 1.7 and 0.9 kg. f. respectively. to the control group.

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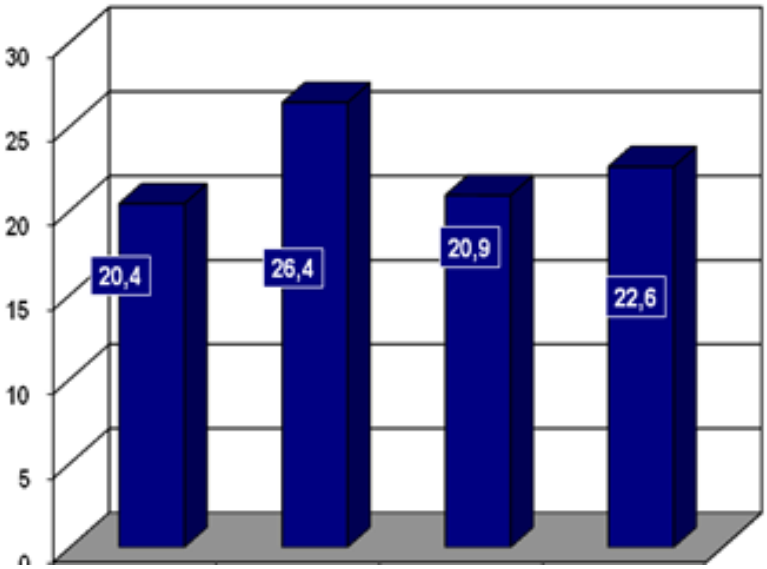

Fig. 4. *The abdominal muscular force*

The abdominal muscular force, a 30 "test, indicates 20.4 repetitions in the initial test for the experimental group and 20.9 in the control group. In final testing, the indices are 26.4 for the experimental group (progress 6 reps) and 22.6 for the control group (progress 1.7 repeats).

The Ruffier test is a physical fitness test and records significant increases in the experimental group of 5.76 units between the initial and the final test, of only 1.90 units in the control group.

Comparison of the arithmetic mean of the run-in samples to the initial and final tests between the experimental group and the control group is as follows:

Running speeds of 30 m have an average of 4 ", 52 in the experimental group and 4", 56 at the blank in the initial test. At the end of the test, a progression of 47 ounces (mean 4 ", 05) in the experimental group and 22 inches (mean 4", 34) was recorded in the control group.

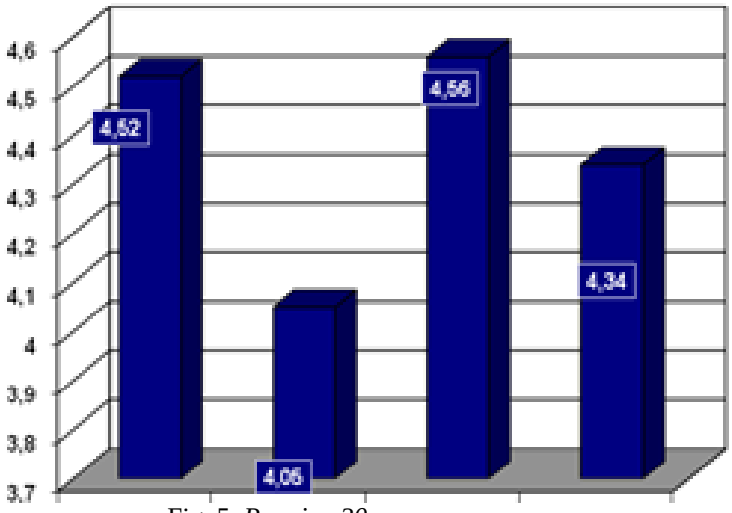

Fig. 5. *Running 30 m*

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At 60 meters, the progress of 54 inches between the initial test and the final test time dropped from 8 ", 64 to 8", 10 in the experimental group of only 24 in the control group, the result being improved from 8 " , 65 to 8 ", 41.

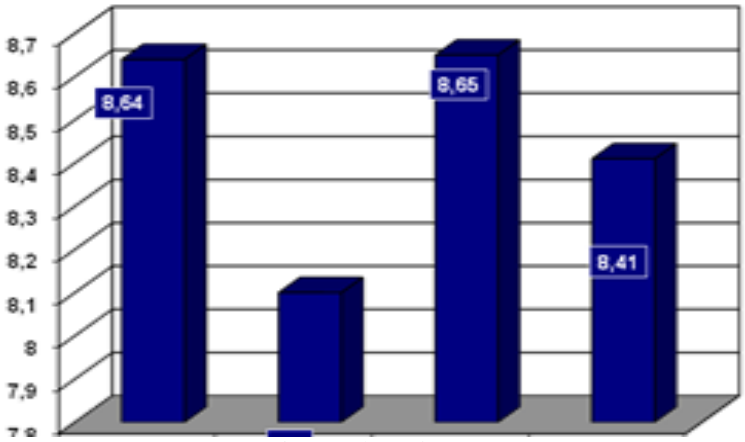

Fig. 6. *Running 60 m*

Initial rolling resistance test ratios of 600 m are 2'.23 "in the experimental group and 2'.22" in the control group. Final testing shows a 19 "(mean 2'.04") progress in the experimental group and 4 "(mean 2'.18") in the control group.

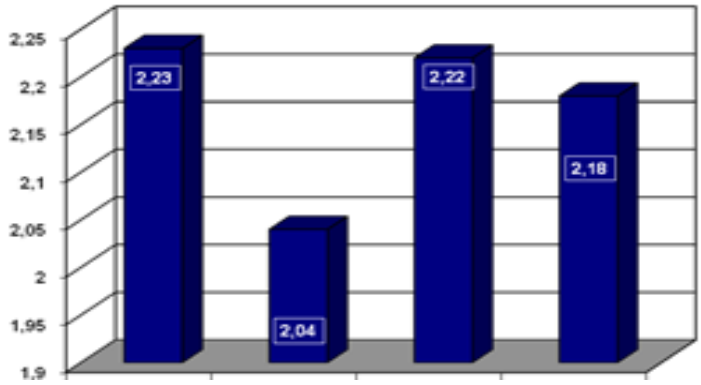

Fig. 7. *Running 600 m*

The arithmetic mean value at the 2000m resistance run shows a progress of 37 "(8'.41" initial and 8'.04 "final) in the experimental group and 23" (8'.56 "initial and 8'.33" final) to the control group.

In the "throwing the medical ball" test, the test results averages: in the experimental group 5.91 m and 6.83 m with an increase of 92 cm and in the control group 5.94 m and 6.41 m with an increase only 47 cm.

Discussion

The study of the theory and practice of the educational-educational process of physical education shows that up to now the school curricula contain general elements and do not have a well-defined orientation for such training with very few concretizations allowing a gradual evolution of morpho-functional parameters of students. Examining the aspects related to the use of these means in the 11-12 year physical education lesson demonstrates that these are a factor for optimizing the didactic process, contributing to equipping the student with capacities and attitudes in line with the educational ideal.

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Analysis of the research results revealed that the provisions of the school curriculum are partly in favor of the multilateral training of pupils and that in order to achieve a polyvalent athletic training during a school year, the number of hours affected by athletics is insufficient

The special polyvalent athletic training program that has been developed and applied to the experimental class provides knowledge, skills and skills of the most significant athletic samples, different as a type of effort, technical and methodical learning and their execution with increased indices of the motoring qualities.

The annual effort volumes of the polyvalent athletic training program, composed of two large groups of means, take into account the psycho-physical and anatomical physiological specificities of the puberty period, but also their accessibility and adaptability to the material conditions existing in schools.

Conclusions

The morpho-functional tests and the special technical and physical training performed in the pedagogical experiment and their comparison demonstrate that the level of effort capacity and registered parameters are progressively dynamic, the results obtained by the experimental group being superior to the control group in all test categories .

As a result of the research carried out, the application of the special program of athletic polyvalent training in the process of training of the pupils in the gymnasium cycle is an efficient method for the qualitative increase of the students' motricity, a conclusion resulting from the overall increase of the results obtained in the final tests experimental group compared to the control group compared to the control group.

The subjects of lesson, with athletic content, from the special program proposed and experienced in the lessons developed within the experimental group offer the possibility of the physical education teacher to reduce or even eliminate the passive pauses, recording the high parameters of the actual work (motor density) reaching in some cases to 67.5% of the total time of the lesson, meeting the ideal requirements (60-70%).

As a result of the experiment, a draft program based on polyvalent athletic training, which can be recommended to physical education teachers, as well as study material for the students of the faculties, was elaborated.

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THE ROLE AND IMPORTANCE OF THE MOVEMENT AT THE AGE OF CHILDHOOD AND ADOLESCENCE

Rolul şi importanţa mişcării la vârsta copilăriei şi adolescenţei

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Abstract

Background. The motor development of children and adolescents, manifested through their physical aptitude, is a complex of genetic, somatic, motor and behavioral characteristics. These components are influenced by social factors and income and education levels in the family, occupation of parents, place of residence, ethnicity, number of family members. These factors, combined with socio-economic conditions and lifestyle, can indirectly alter the motor development of young people.

Hypothesis. In the study we carried out we wanted to find out whether somatic development of children and adolescents contribute to the harmonious development of body and also if living standards influence the development of motor skills.

Objectives. We plan to get out and argue for student participation in sports leisure.

Research methods: survey (based on questionnaires); observation method, statistical and mathematical; graphic method.

Results. Self-employment practice physical exercise is part of the favorite activities of students and is a permanent means, efficient and pleasant leisure.

Conclusions. Physical exercise in leisure time is influenced by the wealth of the family and of health. Preferences investigated students heading for activities such as: aerobics and maintenance, tennis, jogging, swimming, volleyball, karate, cycling etc.

Key words: motion, lifestyle, child, adolescent, health, education.

Introduction

Physical education is a part of human education and aims at strengthening health, harmonious development of the body, cultivation of specific qualities, physical fitness development and ability to perform and enjoy daily physical activities with ease. Chronologically speaking, it is the first type of education that exerts its influence on the body.

The health benefits of regular exercise consist of: Strengthening the body through stronger muscles and bones, increased coordination and a reduction in the risk of chronic disease. For most children, exercise means being physically active during play, holiday, and physical education lessons.

Children become overweight and obese for many reasons. The most common causes are genetic factors, lack of physical activity, unhealthy eating habits, or a combination of these factors. Only in rare cases is excess weight caused by a medical condition, such as a hormonal problem. A physical examination and some blood tests may exclude the possibility of a medical condition as a cause of obesity.

Movement is the very center of children's lives. It is an important aspect of body development regarding the motor, cognitive, affective and human behavior. Participation in physical activities of young children is receiving more and more attention at national and international level due to the rapid increase of obesity in childhood. Children become overweight and obese for many reasons. The most common causes are genetic factors, lack of physical activity, unhealthy eating habits, or a combination of these factors

The World Health Organization recommends 60 minutes of moderate to vigorous intensity physical activity every day for children aged 5-18. Moderate activity includes brisk walking and cycling. Vigorous activity is exercise that makes people huff and puff – and could include dancing and household chores, as well as sports like running and football.(WHO, 2017).

The physical activity strategy aims to inspire governments and stakeholders to work towards increasing levels of physical activity among all citizens of the European Region by (WHO, 2017):

- promoting physical activity;
- reducing sedentary behaviors;
- ensuring an enabling environment that supports physical activity through engaging and safe built
- environments, accessible public spaces and infrastructure;

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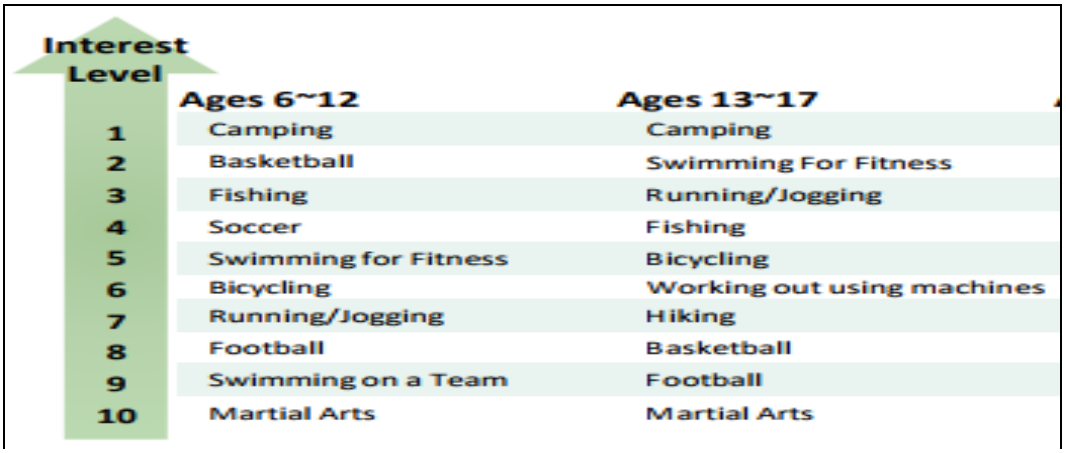
- Providing equal opportunities for physical activity regardless of gender, age, income, education, ethnicity or disability;
- Removing barriers to and facilitating physical activity.

The following research hypotheses were formulated:



Interest Level	Ages 6~12	Ages 13~17
1	Camping	Camping
2	Basketball	Swimming For Fitness
3	Fishing	Running/Jogging
4	Soccer	Fishing
5	Swimming for Fitness	Bicycling
6	Bicycling	Working out using machines
7	Running/Jogging	Hiking
8	Football	Basketball
9	Swimming on a Team	Football
10	Martial Arts	Martial Arts

Fig.1. Participation Report/ The Physical Activity Council's annual study tracking sports, fitness, and recreation participation in the US 2017 (http://www.physicalactivitycouncil.com/PDFs/current.pdf)

Somatic traits of boys and girls have a statistically significant effect on their level of motor development.

The level of development of motor abilities of children may be related, to a different degree, to the objective and subjective quality of life of their families (Bouchard C, Shepard RJ, Stephens T.,1994).

Research objectives

The purpose of the research is to determine whether sports activities are among the students' preferences in organizing their free time, and how they participate in this free time, the reasons for doing or not doing sports.

We also seek to find out why nowadays students practice less physical activities and we wish to stimulate and encourage people of all ages to move as much as possible.

In this regard, the present study was carried out in order to observe the extent to which students have a certain habit of practicing physical exercises.

Education needs to respond much more to social requirements, which consists in expressing them in terms of final, easily evaluable procurement. This conception has led to the organization of school curriculum in a structure that allows focusing on the competencies to be formed in pupils and ensuring the correlation of learning contents with these competences.

According to Grimalschi, T. (2008) the major educational objective of the school consists in the free, harmonious development of men and the formation of their creative personalities that can adopt the changing conditions of life.

In order to increase the quality of education, all disciplines, including physical education, must reconsider their role, contents, didactic methodology and evaluation system.

It is therefore necessary to make the transition from education to all to student-centered learning for harmonizing the system's objectives with individual skills, interests, motivations and individual learning rhythm. The discipline of school physical education offers many opportunities which, supported by an appropriate methodology by the teacher, can achieve this fundamental desideratum as to increase the efficiency of the educational process.

By setting options based on their interests, motivations, inclinations, aspirations, students demonstrate receptivity and responsibility for their development.

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Location and subjects. This study was carried out on 470 pupils from the 1st to the 12th grade from the Gymnasium no.4 and the „Anghel Saligny" Technical College, Bucharest. The research period was conducted during the school year 2015-2016.

Research Methods:

For data collection:

- survey (based on questionnaire);
- method of observation.

Data processing and analysis:

- statistical-mathematical method;
- tables;
- graphical method.

Results

After the answers to the survey were validated, the results were centralized, for each type of question, and presented in the tables.

Due to the relatively small number of subjects investigated in each class, and to maintain a unitary feature in the presentation of the results, they were processed in percentage terms.

From the questionnaire used in the paper exemplify the following five questions that are most eloquent:

1) How much free time do you have on average per day?
a) do not have
b) under an hour
c) 1-2 hours
d) 2-3 hours
e) 3-4 hours
f) over 4 hours

2) Are you exercising in your spare time?
a) daily
b) sometimes

3) Who caused you to practice exercise during your free time?
a) physical education teacher, coach
b) parents
c) colleagues, friends
d) myself

4) How do you exercise in your free time?
a) rejuvenating gymnastics
b) maintenance gyms
c) jogging, running
d) tourism, excursions, hiking, walking
e) fun movement games
f) gymnastics, aerobics, dancing
g) sports games
h) watering
i) table tennis, field, badminton
j) martial arts
k) working in the gym
l) performance sports
m) chess

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5. When do you prefer to exercise?
a) before school
b) after the school program
c) after a certain period of rest

A total of 470 pupils in grades I-XII responded to a questionnaire on their preference for physical activities, not necessarily sporting. These responses are presented in table 1 and grafic 1.

Table no.1. *Students' options for sports activities*

rank	1	a2a	a3a	a4a	a5a	a6a	a7a	a8a	a9a	a10a	a11a	a12a
performance sport	3	0	4	12	45	6	31	66	11	11	4	19
sport in leisure	10	0	12	26	27	9	21	28	47	56	52	23
seasonal sports	25	11	28	68	36	72	37	52	88	62	60	71
excursions	60	97	80	100	90	90	37	95	84	81	80	85
cross-country	10	74	4	30	54	21	18	33	26	25	9	14
walks	100	91	100	100	81	87	56	80	88	74	85	85
tourist guidance	0	0	0	0	27	18	6	42	30	3	9	14
other sports activities	14	48	0	0	63	27	100	71	73	51	47	33

The organization of tourist activities is desirable in the form of camps, excursions, mixed training courses with sport and tourism program.

Practicing physical exercise in leisure time is influenced by the material state of the family as well as by the state of health.

Most of the preferences of the investigated persons are directed to aerobics and maintenance activities, field tennis, jogging, swimming, volleyball, karate, cycling, etc.

The lack of time is considered by most girls to be a major difficulty that makes it impossible to practice physical exercises.

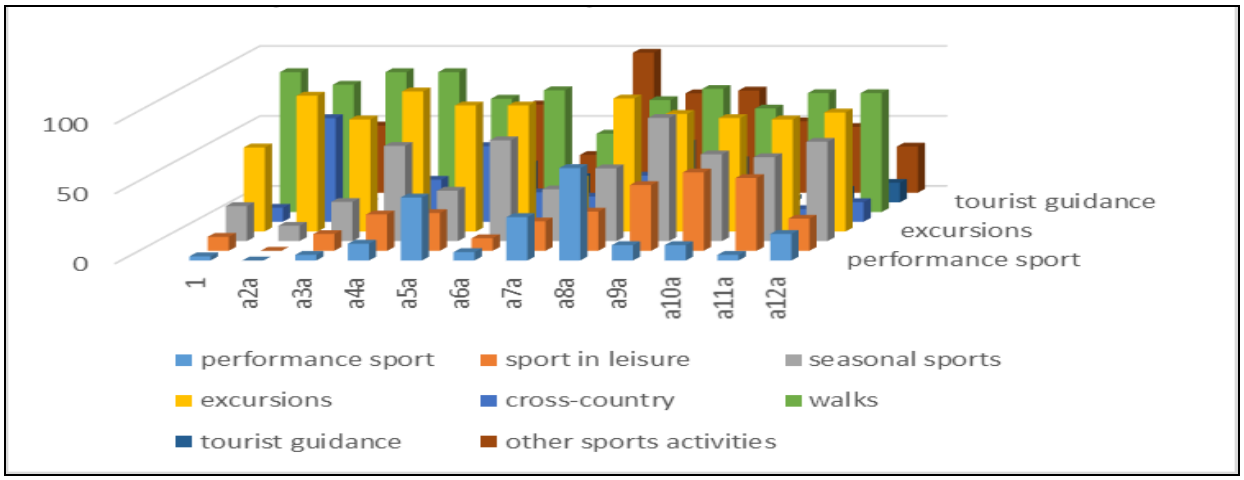

Fig. 1. Students' options for sports activities

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Of the 470 students surveyed, a total of 311 students responded that mass sport and their chosen sport option is presented in Table 2 and fig.2.

Table no.2. *Student's options for practicing leisure time sports*

	rank 1	rank 2	rank 3	rank 4	rank 5	rank 6	rank 7	rank 8	rank 9	rank 10	rank 11	rank 12	total
Athletics	1	1	0	2	0	1	0	0	0	0	0	1	6
soccer	10	12	5	12	5	2	8	7	1	4	3	1	68
Baskt-ball	8	9	2	7	9	1	6	5	2	3	2	1	55
Karate	6	5	4	1	0	0	3	1	3	0	0	0	23
Gymnastic	1	5	3	1	0	0	0	0	0	0	0	0	10
swimming	6	2	2	3	0	3	0	0	0	1	1	0	18
Sky	3	6	0	3	0	1	0	0	1	0	0	0	14
Boxing	2	0	0	2	1	0	0	0	0	0	0	0	5
Judo	1	0	0	0	0	0	0	0	1	0	0	0	2
Tennis	1	0	1	0	0	2	2	0	1	1	1	0	9
Cross-cou	0	1	0	1	2	0	0	0	2	0	0	0	6
bodybuild	0	0	1	0	1	0	2	0	3	2	1	0	11
Voley-bal	4	3	6	1	2	2	2	1	5	0	1	2	29
Handball	1	0	2	0	2	0	3	0	2	1	0	1	12
ice skating	0	0	0	0	0	1	0	0	0	1	0	0	2
battledore	2	1	1	2	0	1	0	3	0	1	0	1	12
ping pong	1	2	1	2	1	3	3	1	1	2	0	0	17
Snowboar	0	0	0	0	0	1	1	2	2	2	1	3	12

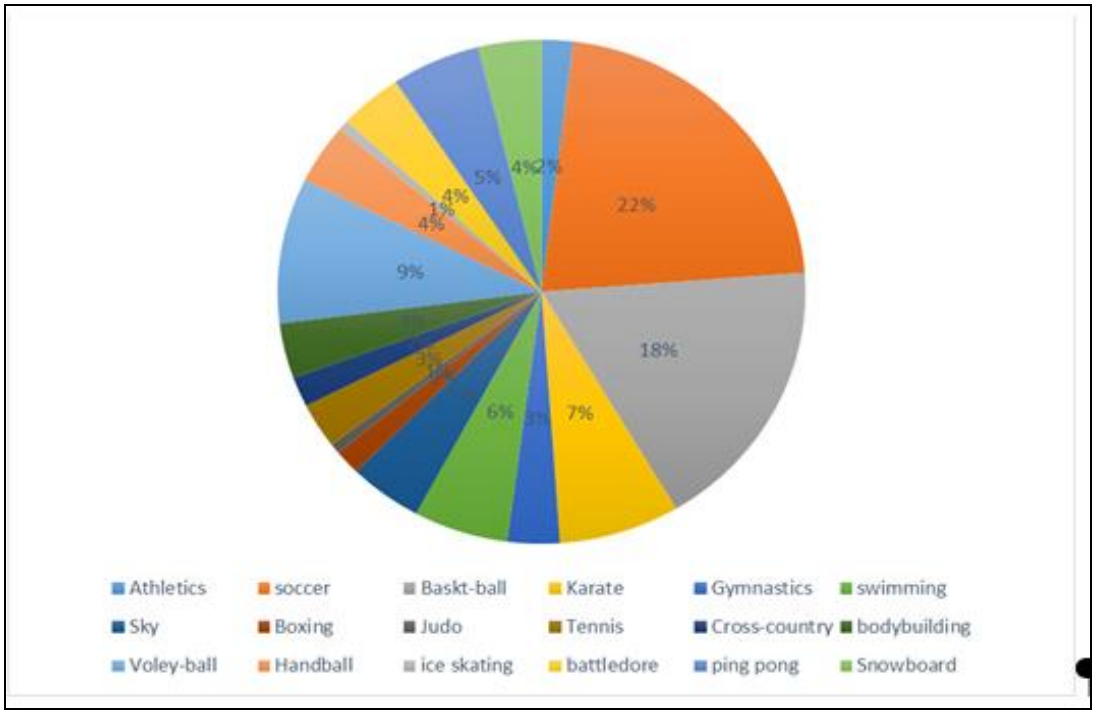

Fig.2. Percentage expression of the students' preferences for practicing leisure time sport

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Discussion

Regarding the structure and the weight of physical activities in leisure time, a much wider range of physical activities can be noticed in high school students because there is the curiosity of practicing relatively new sports: badminton, bodybuilding, karate, aerobics, etc. The answers confirm favorable opinions for practicing physical exercises, the recognition of beneficial actions on health and intellectual performance, accepted in obviously large proportions.

Free time is used exclusively for sports by 30.32% of students, 34.81% of subjects, besides sports have other concerns, and 33.81% have only other (cultural, recreational) concerns, without sport in their free time. There are gender differences, boys prefere sports activities and girls prefere cultural activities.

The reason given by 57.17% of students, does not allow them to practice sports in their spare time, is overloading the training program; lack of adequate sports facilities with complex facilities, located near the dwelling or school.

Analysis of the time budget available for sports, according to the options investigated, reveals that only 19% consider that they can not allocate to sport any time, the remaining 81% think they could do it.

But we think sport is primarily a matter of will, education and mentality. Exceeding difficulties does not automatically lead to a positive attitude towards practicing sport regularly.

Conclusions

By participating in school physical education classes, there is a decrease in stress that is nowadays easier to install at any age, as well as the achievement of physical education objectives in a pleasant and attractive way.

Continuous media action is required for knowing, understanding and accepting by different categories of people the need to practice physical exercise in different forms.

On the basis of the study, we can appreciate that practicing physical exercise in leisure time is part of the weekly preoccupations of the youth, this type of activity being a logical and absolutely necessary continuation of the compulsory physical education activity.

We believe that the Physical Education teacher needs to put a greater emphasis on raising students' awareness of the importance of independent exercise in physical exercise in their spare time.

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SPORT SECTION

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SELECTIVE CRITERIA FOR THE DEFINITION AND PRACTICAL USE OF THE SPECIALIZED COMPOUND OF METHODS FOR IMPROVING PERFORMANCE IN TENNIS

Criterii selective pentru definirea şi utilizarea practică a complexului de mijloace specializate pentru creşterea performanţelor în tenis

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Abstract
The individualization of tennis coaching is based on the process of getting to know each player's individuality and, based on this line of reasoning, the most appropriate methods and means of preparation will be chosen and applied to achieve the expected objectives.

Researching all the individual characteristics will help to know and understand the needed elements (attributes or shortcomings) that underlie an athlete's success. The more complex, the more solid and useful our knowledge will be, based on modern research methods pertaining to the performance-specific requirements of the tennis game.

Keywords: specialized methods, game objectification, official match, physical demand, mental stress, definite game, total game, break, period.

Introduction

The present, the catalyst. Rocketing tennis competitions as well as the outstanding growing number of players' remarkable performances are largely due to improvements in all areas of methodology and advanced technologies for training athletes.

The present research topic shall have a great relevance to the field of performance tennis without being limited to just that, provided that it hasn't been given the opportunity to create an over-particular and applicative filter for the decisive importance possessed by the tennis game content know-how (technical and strategic game paths and players' physical effort) which is a modern source of functional structures and specialized means for coaching the player.

Over the past few years we have witnessed great tennis matches worldwide – The Grand Slam – Australia, France, UK and USA, as well as over 60 big ATP tournaments (more than one tournament weekly).

The great tours number to which we shall add also the grand players' most valuable performing will prove that the tennis game has reached its unabridged peak on its superior strategic part over performance on both its technical and strategic refined planning as well as its players' high athletic exercise.

In this paper it was left a valuable methodological principle, modern and necessary for the design and use of the practice structures system **(means)** that should stress the learning, enhancing and improving the full court game components.

This precept can be interpreted as follows: "In the coaching methodology it is important to start from the game to the training and then go back to the game", an idea that represents a plausible modern method in our opinion.

In this context, the hypothesis of this paper will express indeed the dynamics of progress in tennis performance as a result of contributions to the modernization of tennis technicians and specialists, as well as of the related sciences: biomechanics, biology, biochemistry, psychology, nutrition, apprenticeship, which will measure the scientific experiment, followed by effective decisions and evaluations for training.

This paper is based on a series of records, observations and discussions with national and foreign specialists, held during 2017-2018 at the Grand Slam competitions and the ATP tournaments from Doha and Dubai.

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We should mention that the 4 Grand Slams chosen are held in the 3 out of 5 winning sets system whilst the ATP tournaments have a system of 2 winning sets out of 3.

The records focused on the number of technical processes made by the players from one side of the court. There were taken into account also the following: the game actions efficiency, the direction of the return serve and the distances run by the players.

Table no.1. *The data obtained were gathered and presented in the below table.*
This table features the average shares for a single match.

Official matches	No. game plays	Set no.	Serve no.	Forehand no.	Backhand no.	Volley shots no.	Demi volley shots no.	Lob no.	Stops no.	Court run
Grand Slam	8	32	170	850	770	70	40	15	52	7500
Tournaments (Doha, Dubai)	8	19	102	600	510	39	27	7	21	4000

After analyzing the data gathered via the TV channels stream, a series of game components have been retained for projecting the main training means poles:

- Players' strategy (offense, defense, combination)
- Game actions efficiency level
- Game play launch and end
- The game play angle opening area
- Court distances run throughout the actual match
- The most exploited court areas
- Serve and return strategy

Training for tennis turns rational and efficient when, along with several controls, there will be used optimal ratios of selected means for usability criteria and will demand proper efforts from a player, close to the match requirements. The methods used and the whole player's training need to maximize the player's technical and tactical gears and to advantageously develop general and specific driving qualities, contributing to the continuous improvement of the ability to adapt the sporting body to increasing efforts.

In order to select, adapt and develop the most effective means of training the tennis player, it is necessary for the technicians to find the best methods of objectifying the competitive game play, from which to retain the structure, the functionality, the frequency and the level of effort required by the athlete to grasp the technical mechanisms and the complexity of tactical game phases.

As it's well known, the tennis modem game has a varied content due, on one hand, to the peculiarities of age, sex, training background, competitive experience, playing area, to which can be added constant aspects of stakes, meteorological or mental state factors etc.

Taking into account the above forethoughts, we believe that specialists and field technicians should make increased efforts to detect those quantitative and qualitative evolution parameters of the current game play at the level of a great performance and then, by appropriate interpretation, to be able to retain objective-able elements of the competitive game, in order to adopt the most suitable means of training.

Out of the data we gathered from several records of the official game plays, we could observe the main technical and strategic parameters of the match as follows:

- the total number of serving actions consumption to achieve a point, a set or a full match;
- player's efforts content per time units (3 ", 5", 8 ", 12", 15 "... 30" - 40 "etc.);
- the distances run and their purpose (in active moments of play);
- the dynamic of organizing and finalizing the point (on the 4 tactical phases of a simple game and its components);
- the spread of ball line from the opponent and return (the court areas most exploited);
- methods to win the point and their frequency of use;

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- means to achieve, change, combine and maintain the serve impact efficiency (direction, length, trajectory, effect and speed);
- the segments, joints, ligaments and muscles degree of being required to support the main serve bending movements (directions, amplitude, frequency);
- the duration of the actual playing time and the duration of the total game;
- the functional parameters variety of the sporting body (circulatory, respiratory, digestive etc.);
- player's personality and creativity during the match;
- difficult situations during the game play and the ways to overcome them;
- technical and strategic risk actions and their influence on sport performance;
- the actions content and their effectiveness on various playing surfaces;
- the game play content on different player types (offensive, defensive or merger), as well as on the official encounters between the different or similar typologies;
- the mental effort and the player's ability to restore himself between the points and the regular breaks in the game play's evolution.

Taking into account these parameters of the competitive game to which others can be added as well, along with real game play data, there can be gathered clarifications and inexhaustible sources of ideas for developing the most effective tennis training means.

It is possible that less experienced coaches, not taking into account the above might be thinking that imagining an exercise is an easy task for every one. We do not share this view, because often fantasy and superficiality in the making and use of an exercise automatically lead to technical, strategic, physical and psychological errors, as well as affecting the most serious of the body's functions in terms of quality and amount of athlete’s effort required during a match. In deed, the performance sport, through its peculiarities, is a "testing ground" for novelty and human creativity. Hence the need to seriously treat the form, content and the use of means to help drive the game and increase efficiency with minimal efforts on an athlete's part.

Of course, in order to build and retain the most effective means of training, as a result of the data gathered from the official matches, the coach will have the duty to carry out with great care their structure and functionality, as they will subsequently undergo technical, tactical, dynamic, physiological, biomechanical tests) in order to locate the effect sourced by these means on an official game play requirements level.

Often, if these means yield the expected return, they will also be used as control samples, which can measure up of the efficiency of the training. Any means of training selected and used must also have a degree of appeal to the body of the athlete, which will provide expected and always appropriate responses to those in the competition (Alexe, N., 1993).

Basically, as the specialized thesis works are showing, confirmed also by our concerns in the field, it is noted that not only the number of both technical and strategic means used in the training of the performance tennis player has diminished, but also the physical training, yet we have to keep in mind that those remaining in the training fund, specialized and structured in the competitive game, reached a higher level of adaptability for the athlete.

Of course, the element that amplifies the value of the elaborated means is given all above by the methodology of using and directing the physical and mental efforts that the athlete must submit when practicing.

Removing the ballast of inefficient means that still exist in the practice of tennis will, in our opinion, contribute to a substantial leap in the methodology of training the performance tennis players.

On multiple occasions, some of the younger coaches use quite the same amount of ineffective means of "classic tennis" for all stages of training. These means, apart from not having the desired effect, often contribute to the athletes' boredom and indifference.

The means retained in the training economy are still to be verified in practice, and the biological cost whilst the corresponding effects on the technical-tactical, physical and psychological plan are assessed on a permanent basis. Certainly, testing these means must be done by some known rules that set the repeat mode, the tempo, the pacing, duration, number of sets and the duration of breaks.

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The tennis training tools, in our opinion, can be divided into six basic groups:
A - the general physical training means group;
B - the specific physical training means group;
C –the technical and strategic training means groups;
D - the group of complementary sports means;
E – the psychological training means group;
F – the special methods group.

A. THE GENERAL PSHYSICAL TRAINING MEANS GROUP

- base means and acrobatic gymnastics (individual and pairs - with and without devices);
- means of athletics (running, jumping, throwing);
- natural means (sand, water, snow, versatile terrain etc.);
- stacks and dynamic games;
- complementary sports - sports games (basketball, handball, football and winter sports - skiing, skating).

B. THE SPECIFIC PSHYSICAL TRAINING MEANS GROUP

- means for analytical and global motricity (technique imitation);
- means for developing specific motor skills: speed, strength, resilience, mobility and flexibility - at the level of the top tennis game segments;
- means for strengthening joints, ligaments and muscles with interest in providing specific movements;
- means for the development of combined motor qualities (explosive force, resistance to explosive force in the upper and lower line);
- the means of learning the technique and tactics of play (the dynamic regime).

C. THE TECHNICAL AND STRATEGIC TRAINING MEANS GROUP

- means for learning, strengthening and refining technical preparation techniques (rocket socket, position, landing, ball placement and repositioning in strategic areas of the field);
- the means for learning, strengthening and refining the technical mechanisms for serving procedures from the sides;
- the means to learn, enhance and refine the tactical content of side-strike techniques (efficiency factors);
- the means to learn, strengthen and refine the technical mechanisms and procedures for smashes;
- means for learning, strengthening and refining the tactical content of smashes (efficiency factors);
- means for learning, strengthening and improving the technical mechanism of return serve procedures;
- means for learning, strengthening and refining the tactical content of return serve procedures (efficiency factors);
- the means to learn, strengthen and refine the tactical moments of game play phases during a single match:
- the fixed play phase and its component moments;
- the alternate game phase and its component moments;
- the decisive game phase and its component moments;
- the pass game phase and its component moments;
- means of anticipation development;
- attention stability under fatigue;
- means for increasing physical and nervous system self-regulation;
- means for special strategic situations (adversity cases, playing surfaces, score evolution etc.);
- learning and testing game plays;
- the means to learn, strengthen and refine the double game tactics (male double, female double and double mixed).

D. THE COMPLEMENTARY SPORTS MEANS GROUP

- practicing winter sports (Alpine skiing, hockey, ice skating).

E. THE PSYCHOLOGICAL TRAININS MEANS GROUP

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F. THE SPECIAL METHODS GROUP

- video and audio equipment;
- physiological investigations equipment;
- instruction equipment (balls throwing machine);
- electronic equipment (to simulate adversity for the bilateral game and to record the content of the official game play as well as the training).

It is worth mentioning that once setting up the structure and methodology for using the gathered methods, validated on levels such as biomechanical, technical, strategic and physical, along with the exact knowledge of direct or indirect, approximate or certain relationships with the game's specific performance, the operation standardization will be initiated.

As stated by Alexe, N., (1993), this suite of actions - the objectification, the inventory of means, their complex and diversified analysis, their selection, standardization and transformation into control samples can contribute to simplification, ordering and, at the same time, leading the coaching to the requirements of a match.

As a result of the performed operations, it is possible to proceed automatically to rationalization which aims to learn the values invested in the training.

Thus, such a suite of operations (objectifying the game, creating means, choosing them, determining and then justifying them) shows that the training process can and must be conceived in its entirety, and the parts that make it up are correlated and determined.

For the efficiency of the coach's work and the increase in sports performance, we consider that coaches need to be careful to develop batteries for training (physical for all motor skills as well as technical and strategic training), to codify them, describe them and to be accompanied by an appropriate graphical representation, dosing alternatives on each exercise, to which they can resort to the design and realization of the methods for training lessons.

Conclusions

The tennis game at the level of great performance encountered at this stage a special evolution on all levels of sports training and competitive game, which justifies us to affirm that the basis of these spectacular performances are the principles of selection and use of specific and modern means, as well as an effective methodology for training and practicing tennis.

The analogy and integration of the specialized training means at a higher level leads to the formation of automatisms and game mechanisms of high mastery and efficiency in the official competitions.

The technical, strategic and psychological training we have presented have a strong impact on the resistance of the tennis player to the complex of physical and mental efforts submitted during the official matches.

The elements that prove and highlight the quality of the means used to prepare the tennis player have two coordinates:

1) superior results gathered whilst training (practice sessions) as well as at the official matches;

2) a number of training tools can be used as control samples, laboratory/ field tests or investigations, followed by effective methodological decisions.

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PROBLEMATIC ASPECTS ON TESTS AND CONTROL RULES FOR STUDENT'S PHYSICAL TRAINING IN SELF DEFENSE LESSONS

Aspecte problematice despre probele şi normele de control în Auto Apărarea fizică pentru studenţi

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Abstract

Background. This scientific study is aimed at documenting the shortcomings regarding the tests and control rules of general physical training required in Self Defense for students. In the scientific literature we have found only tests and control rules focused on a specific sport discipline and without considering the extensive and complex problem of Self Defense. Additionally, we have not found the motivational factor for choosing the test and the control rule considered !

Objectives. Is to aim, to correlate and explain the tests and control rules of physical and sports education that we have found in the literature and which we deem as useful in general physical education for students as it comes out of the necessities in the field Self Defense from Martial Arts.

Methods. The scientific methods used by us are the method of investigation, the method of the experts, the method of questioning by defining the nature of the issue and the method of the bibliographic study.

Conclusion. We selected 13 tests in different formats (abdominals "jackknives", squats, push ups, two handed fixed bar pull up, extensions of the trunk, (adapted) throw of the round ball, speed running 400 m (sprint with standing start), long distance running - resistance (Test Cooper 12 min equal as test of $V.O_2$ max.), long jump in running (with landing on one's feet), triple jump in running (with landing on one's feet], osteoarticularocoxofemoral mobility, relay tests 10 repetitions x 10 meters with various and diverse utilitarian applicative exercises, burpee exercise-"Korean push ups".) and their related control rules (conditions of execution and the number of repetitions performed). These results imply the following problematic aspects : the synthetic environment where the testing are made (in the sport disciplines takes place) versus the real natural environment where the physical confrontation occur, the training and the general physical condition (initial and intermediary) of the student. Because current student is poorly trained from the mental, physical and motric point of view we take 0 (ZERO) as initial starting point of measure unit (for multiple and various reasons) and we track the students individual progress.

The control rule by which statistics are to be accounted for shall take into account the resource consumption efficiency, the reduction of post effort recovery and rebuilding time, and the psychological comfort of the performer, correlated with exceeding the individual record for each and every student. We also considered here the individualization of the physical training (individualization of the requirements for the execution of the test adapted to the environment in which the physical confrontation takes place, but also the individualization according to the genetic, medical, anthropological, physiological, etc. particular biotype of each student) as evidenced by the scientific literature and in the studies on current student groups showing heterogeneity from all points of view.

Keywords : students, physical training, tests, norms, control, Self Defense

Introduction

The purpose of this paper is to find a scientific foundation for physical tests and control rules applicable to students in Self Defense lessons, so that, according to them, can be made scientific statistical studies on special psycho physical and motor development adapted to Self Defense to students. We consider that this issue of control rules and tests related to physical training in Self Defense for students is poorly documented and misapplied. Therefore, we will present our point of view on the issue in question, as it appeared from our scientific approach. The issue in question involves large categories of issues : WHAT ?, HOW MUCH ?, HOW ?, WHY ?, FOR WHAT ?, WHERE FROM ?, WHERE TO ? (measurements), relative to the choice of individualized specific tests, rules, and control parameters !

We also present the connected issues related to each test from the point of view of labor protection, specific biomechanics (correct execution of the body movement in order not to damage it and to protect it, this way developing physical training), sports medicine and lack of student mobility and motricity. We consider that all repetitions should be performed with our own body without any additional inconvenience (the calistenic repetition of exercises) in the "power training" mode of force - speed - resistance - skill at maximum values because this is what the current practice in Self Defense requires.

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For example, in the study of literature I could not draw conclusions regarding the motivational execution of a certain tests or of the parameters of execution of the specific control rules. What is the reason for the scientific choice of test **T** ?, which is the reason for choosing the minimum and maximum execution rule (why does the minimum control rule have **r** repeats for a grade 5 and minimum **R** repeats for 10 (maximum)? This issue is very important because we study Self Defense scientifically and we cannot include "randomly by the ear" any elements of general physical training in the specific training necessary for Self Defense.

Before determining a student to perform an exercise, the coach teacher must explain the motion applicative utility thereof so that the student can understand what he is doing and not to perform an abstract physical exercise mechanically. Many student / athletes / sportsmen in derived battle sports from Martial Arts perform "many, stupid and pointless" exercises without knowing the essential subtle details that lead to performance with mastership and accomplishment (relative to what is done, how much it is done, how it is done, why it is done and what is the form of the correct execution of the movement in question) that lead to mastership and perfection. As they say, they perform certain physical exercises "because that's what Sensei told us to do !"

Separation by gender (male and female), by categories of age of the tests and control rules on general and specific physical training is unproductive for physical Self Defense because physical aggressions are not customized by gender, age, etc., and moreover current students are heterogeneous in all respects. Of course, men excel in strength and women excel in suppleness but in the field of Self Defense it is necessary for both components to be present at the same time according to the phrase "When two become one !". It is out of the question for me to have separate and different control rules for women and men in the same exercise depending on their biological age, because the race is with yourself for self overtaking and in order to successfully defend yourself against physical aggression. Each individual performs physical exercises with their own body and obeys the same mental and physical requirements in the case of psychological and physical aggression because men and women are equally exposed to the same type of aggression irrespective of their age. Here is the individualization and personalization of the technical - tactical executions according to each and every individual.

I have conceived these specific tests and control rules so that students can find them useful in physical Self Defense but which can also can be performed with pleasure and ease by the students in their free time. The specificity of these control rules and tests emerges from their quick and easy applicability in the conditions of Self Defense. We need to train ourselves and develop those utilitarian applicative motor skills required in critical stress conditions as it occurs in Self Defense, and not just of general physical development without practical applicability (see the issue of "poorly cognitive" bodybuilders doing " force training" to lift weight as heavy as possible while in competitions only muscle shape and volume are appreciated !)

Results

Our study showed that for students enrolled in Self Defense classes, the following tests and control rules are required, which we present in correlation with : the motivation of their choice, the protection of their work, their biomechanics and the helping exercises for development, of medicine, as follows:

Test 1: Abdominals - "jackknife" exercise : performed on the back with the hands stretched out in the head extension and / or hanging from the trellis. The individual capacity and quality of the abdominal belts in cases of physical conflict is measured in the training room through the physical shape of the abdominal belt muscles (how quickly they bring, and if it is possible to bring, the base of the feet to the palms), which is given by the capacity of rapid contraction of white muscle cells that show specialization in the fast execution of the muscle contraction. In the variant of the "jackknife" sitting on the back, with the hands stretched in the head extension, the biomechanical problem of lifting the legs simultaneously with the arms and the trunk will be taken into account, its return being controlled but quickly without throwing the hands and feet on the ground, as well as that of work protection that requires that the legs and hands be permanently stretched to avoid hitting the head with one’s own knees and to increase the amplitude of the movement.

As the standard dorsal execution of the abdominal exercise - "jackknife", we note that during rest, the legs, body, shoulders, and arms are on the ground to rest, and as the modified version for sports performance, the

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body of the subject rests on the ground only on the gluteal muscles though the body is stretched horizontally without any other contact with the soil.

From current practice it can be noticed that for most students this exercise, regardless of its form of work, is more difficult due to lack of muscular tonus of abdominal muscles correlated with the problem of the endocrine metabolic accumulation of adipose tissue, which will prevent them from performing the exercise.

In the performance variant of the "jackknife" exercise hanging from the trellis the medical problems of the joints will be primarily taken into consideration : the hand, scapular humerus and elbow joint that do not resist such a dynamic exercise regime (for various traumatological reasons). In this variant, raising the legs is more difficult and because fewer muscle groups are used compared to the first variant (lying down on the back with the hands in the head extension) and the muscular groups involved are used in an unnatural motor regimen.

As with the adapted kinesiology exercise, students can perform the lifting of the knee to the chest by hanging from a fixed bar / metal frame, but this exercise cannot be considered as a test for Self Defense because it uses mostly red muscle fibers with low contraction speed , their metabolism being aerobic.

We have presented here the exercise "jackknife" in the two basic variants used in all physical Martial Arts for current students (who are non mobile and sedentary in general) to be able to focus on the best option for them. Athletic performance students can perform both forms of exercise (lying down and hanging from the trellis) to see the difference between them. It is easy to notice that when fatigue occurs, the execution amplitude decreases and increases the resting time between repetitions consistent with the increase in respiratory volume required for psychophysical rehabilitation.

Traumatic orthopedic problems of the basin, spine and coxosacral pelvis area will also prevent students from performing the exercise.

Test 2: Squats with the arms raised parallel to the ground are required for testing capacity and motor quality of the lower limbs. We consider this test to be useful because in the physical struggle the need for repeated lowering and lifting of the body in correlation with specific fighting techniques often occurs. In addition, when we raise our own body, there is a need for lifting the opponent's body too. This exercise is performed by bending the legs keeping the spine perpendicular on the ground so as not to damage it. The lifting and positioning of the arms parallel to the ground throughout the exercise is done to put tension on the upper limbs and the harmonious development of the body. The initial starting position is with the feet of the parallel legs on the width of the shoulders, the base of the feet being well fixed to the ground throughout the exercise to have stability and not to damage the knee. The development of the foot and thigh muscles leads to the inability of the gluteal muscles to reach the ankles. In this case, the student will only perform semi squats as much as the body allows, but also in power training regime for developing strength, speed, and resistance (of reaction, execution, repetition). The variation of the sole heel alternate support is excluded from a correct execution. Endocrine metabolic (fat - accumulation of adipose tissue) and traumatic orthopedic problems in the ankle, knee and basin area and pelvic belt will prevent students from performing the exercise.

Test 3: Push-ups: There are several types of push ups and we bring here the issue of their choice in terms of utility regarding multilateral training for physical combat. In general, in all physical Martial Arts it is recommended to perform push ups in the punches to strengthen the surface impact of the punch and the related joint of the hand so intensely stressed in fighting, although in the Chinese Martial Arts there is the saying " hitting someone with the fist is proof of compassion". Thus, we have chosen as types of push-up executions:

3.1. push ups with shoulder width parallel arms (useful for working biceps and triceps antagonists with applications in linear punching techniques);

3.2. push ups with distant arms (in pronation) at two shoulder widths useful for engaging the chest muscles with applications in combats in the type of pushing and / or traction techniques on the opponent. Just theoretically, this exercise is the same as pushing the weight from the chest lying on the back on the gym bench. In practice, besides the factor of reversing sense of force application by sliding vectors, there is also the psychological problem of the specific execution for obtaining proper motor skills.

3.3. push ups in one fist useful for the development of the muscles of the arm, forearm and shoulder with applications in the repeated execution of the techniques of striking with the arm, the fist, the elbow and the shoulder.

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3.4. wave push ups with palm support (circular forward and / or back). We have chosen this type of push ups for the simultaneous development of the muscles of the chest, shoulders, arms and forearms in conjunction with the simultaneous development of osteoarticular mobility, elasticity and flexibility in the hip joint. Since this kind of physical exercise is recommended as a kinetic therapeutic method of recovery and post traumatic recovery some specialists do not fit them into the category of push ups, but are of utmost importance in the practice of physical Martial Arts. Push ups in waves with palm support presents the great advantage of control intermediary positions specific to biomechanics through Yoga poses (Asana) where the subject relaxes, breathes and rests for a short while. This type of push up is executed with palm restraint and legs disengaged as much as possible (at least 90 degrees) for strength development, dynamic stability (more stability for to fight self vibrations induced to the body) and active stretching. We recommend the practice of Yoga poses (Asana) only for critical physical therapy cases because in Yoga the emphasis is only on the development of stretching, static effort muscle, in special breathing regime, without an immediate application in the fight.

The biomechanical problem of the wave push up exercises (with palm resting) implies that in the forearm flexion on the arm the body and chest reach as far below against the ground as possible, but without touching it, correlated with the linear and horizontal intermediate position of the body "like a plank" parallel to the ground and finishing with the posture support in the palms and foot base with the basin as high as possible. Practice proves that these goals are often merely theoretically ones even for advanced athletes.

Martial arts masters have highlighted three types of breathing during push ups (the initial starting position - bottom or top not important being emphasized on breathing correlated with body movement in space rather than on the movement itself):

r.1. expiration upon lowering and inspiration upon lifting (to develop traction force) is executed in the absence of the metal frame for traction at the fixed bar,

r.2. inspiration upon lowering and expiration upon lifting (to develop pushing force),

r.3. without breathing with the chest blocked, maximal effort and over maximal effort to develop anaerobic endurance during the fight.

We deem it useful for all these three forms of respiration on push ups to be tested and performed by the students.

The medical problem that prevents the individual from performing the push up is based on the trauma of the skeleton at the level of the osteoarticular system (from ankles, knees, hips, spine, to shoulders and elbows, etc.). A special "medical" type of repeated push ups is that of repetitions from the knee, but the body must always be in a straight line to the horizontal without inflections. This is useful for developing motor capacity in subjects under and / or poorly developed and / or as a kinetic therapeutic method of post traumatic recovery rebuilding. This practice of push ups on the knees should not be generalized and implemented because in physical confrontation it can generate failure.

Test 4: Two handed fixed bar pull up. These types of exercises are required to develop the strength of the arms, forearms, shoulders, and hands when it comes to the process of executing a fighting technique. There are two different types of fixed bar pull ups to be implemented equally with students: two handed fixed bar pull up both hands being in pronation and two handed to the fixed bar both hands are in supination. The difference between them is primarily the activation of other muscle groups in the execution of the mechanical work.

We draw attention to:

- Medical issues related to injuries at the level of the hands, arms, forearms, shoulders and elbows which lead to the impossibility of performing pull ups;

- Biomechanical problems when executing pull ups with low amplitude (initial starting position in which the arms are not fully stretched in the extension of the body, and the final position when the arms are not or completely flexed on the forearm) is defective, involving fewer muscle groups and other muscle groups not important. If the student cannot complete a full race, he / she must be assisted by a fellow being held and lifted by the leg during the traction. The "therapeutic" execution of traction at the pull down / pull up machine is not recommended, because in this case the all body stays in static place and only the upper limbs move inefficiently, the lower part of the body being relaxed.

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- Problems of work safety when balancing pull up is made results in facial trauma following contact with the support bar, upon engagement of insignificant muscle groups, and injury to upper limb joints.

Test 5: The trunk lifting with extensions are made with the hands to the nape. This exercise are useful for body training in face-to-face confrontations and ground confrontations (for example, the Ne Waza technique in Ju Jitsu). We have identified four useful types of trunk lifting with extension exercises : in front, to the left, to the right and to the back. All these exercises are performed with the hands on the nape to facilitate breathing (diaphragm dilatation), but also to get the student used to release the hand from the aggressor‘s grasp. Once your body is lifted by muscle contraction, deep double expiration takes place, and once your body is download deep double inspiration will be made. For the execution of the trunk liftings we recommend the help of a training partner who stands on knees (above our tightly glued legs) in the position of Seiza. Martial Arts Masters use the training partner also to practice a light and fast percussion with fist on the muscles that is aimed at being trained for a rapid contraction.

We draw attention to the biomechanical problems of deceive the lateral trunk extensions when using the balance of the 1 st. degree lever of the two combined bodies (of the performer of the exercise and of the assistant partner) for lifting on one side without performing muscle contraction.

As well as the medical problem, we anticipate the accumulation of adipose tissue that does not allow free movement of the body and the trauma of the pelvis / hip and backbones.

Test 6: adapted throw of the round ball. We include this test of control of motor quality and motric capacity of the special physical prepare by coordinative motion quality control of physical training. Practice of Self Defense from physical Martial Arts also involves throwing various objects (more or less contusive) to the aggressor with the purpose of defending and gaining time. Here we encounter the problem of biomechanical adaptation of the throwing the round ball for the purpose of Defense and Self Defense. Thus, in contrast to the school practice (where there is only one type of throw with one crafty hand, on the spot, by rotation and with the ball starting next to the shoulder, in static way, in free space, in the right line) in all physical Martial Arts we have the "Adapted Throwing of the Round Ball" based on:

- throwing with one hand (left and / or right – crafty or clumsy) and / or two hands;
- throwing on the spot and / or movement (linear - running and / or circular - rotation);
- throwing on a linear trajectory or a circular trajectory to avoid a fixed and / or mobile obstacle;
- throwing with or without jumping;
- throwing at the moving target and / or fixed imaginary point as far as possible.

All these types of throws are made and used in physical Martial Arts without special attention to our initial standard position. Thus, we are interested in the precision of throwing on a fixed or mobile point and the length of the throw, regardless of the personal style of execution. This problem involves similarities with the military practice of grenade throwing and documented by artillery shooting. This problems are systematizing by theoretical mechanics, when, to have the maximum firing stroke the elevation angle (angle in vertical plane which is governed by the distance to the target and the energy of the propelling charge) must be 45 degrees and in order to have precision in hitting the target we must move identically, as the target against the same inertial frame of reference, or anticipate the movement of the position vector of the target in time and space. See the details in the applied physics in inertial frame of reference on Newton classical mechanics.

Test 7: Speed running 400 m sprint with standing start. This test is essential in Self Defense physical training because 400 m running is the Olympic athletics test (indicating the performance of time covering the indicated area in) but above all, it is the minimum distance to run in order to be relatively safe in the case of a street conflict (see for example altercations in social protests). The standing start is essential because there is no possibility in terms of fighting for the use of block start, and hence the increased runtime of the speed running. We cannot take as a point of reference the value recorded in sports competitions (https://en.wikipedia.org/wiki/400_metres) because we have a heterogeneous population group that is not prepared (by all point of view) to do physical performance. The current time achieved by athletics champions is around 43 sec / 400 m, which implies an approximate velocity of 0.1075 m / s equivalent to about 33.4 km / h but in a supra maximal effort of very short duration. The running is uniformly accelerated in space without obstacles and approximately linear. In practice, there are issues of unpleasant surprises, motor incapacity,

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injuries, psychological issues of perceptions and sensations, specific stress problems, inadequate clothing and footwear issues, obstacles in the social environment, problems with carrying luggage, etc. This results in great discrepancies even between the time taken by the individual in a sports test (in sport arena of university) and the time spent in an urban conflict. We specify that the average walking speed of a man is about 5 km / h (about 1.3 m / s), it travels 400 m in about 307 sec. ≈ 5.12 min. Under stress conditions, physical and psychological incapacity, a running time of 400 m runs between the speed of 10 km / h (about 2,7 m / s) and 15 km / h (about 4,1 m / s) is a good time. This makes the approximate speed of 400 meters covered between 2,4 minutes and 1,6 minutes, time much lower for aggressors to gather and get organized.

Test 8: Cooper test: Long distance running in 12 minute – Aerobic resistance test running is designed for testing main volume of O_2 in blood. As the reference frame we include Cooper's on line test and web sites such as (https://en.wikipedia.org/wiki/Cooper_test, https://ro.wikipedia.org/wiki/Testul_Cooper, https://www.brianmac.co.uk/gentest.htm (with on-line calculator), to figure out the level of physical training and adaptation to the individual's effort, but above all about the individual's ability to reach the maximum security area by the need to travel a distance as long as possible in the shortest possible time. Site 3 also offers an on line computer to check psycho physical and biophysical performance for athletes, but we again raise the issue of student heterogeneity and the specific Self Defense issues discussed above. For instance, from the study of the Bucharest city map we can see that the distance between the Universităţii Square and the Victoria Square (two locations with tradition in violent social protests) is about 3.4 km, far superior to that covered by an good sportsman in the Cooper test, who covers approximately 2 km ± 25 % m. We consider that distance cover by Cooper test is quite large and offer personal safety. Being so far away from the conflict zone, safety and personal security are guaranteed, but "first these few kilometers should be covered as fast as possible." Considerations that impede motor psychic performance are the same as those from the 400 m sprint test. We consider the average speed of endurance running in the case of a street conflict to avoid a violent physical conflict is also, the identical as 400 m speed running, between 10 km / h and 15 km / h even for trained individuals. With 10 km / h in 12 minute cover 2 km and with 15 km / h in 12 minute cover 3 km. In both case you are in safe distance against violent people in social protest sites, but you must be check if a violent persons does not follow you.

Test 9: long jump in running (with landing on one's feet). We chose this test in correlation with the previous tests because in Self Defense during violent conflicts in the street, it is necessary to carry out jump over various mobile and / or immobile obstacles in the environment.

These Self Defense long jumps in running have the following features:

- they must be performed mainly in length (but maximum 4 - 5 m measured from the place where the foot was execute separation to the ground) with a negligible height of less than 1 meter to avoid unfavorable environmental elements (pits, holes, stones, ponds, etc.). We remembering that for maximum jump distance elevation angle must be 45 degree.

- landing must be done on one's feet due to instability of unfavorable ground and of related physical aggression. To avoid trauma and failure, a landing on the back is excluded as it happens in athletics when jumping is performed at the sand pit.

A long jump in running over 7 to 8 meters as happens in Olympic games is excluded due to the peculiarities of the situation of coercive social events. The considerations that undermine the motor psychic performance are identical to those from the running tests.

Test 10 : triple jump in running [with landing on one's feet]. Ends the tests drawn from the running school present in athletics, being complementary to test 9 long jump in running (with landing on one's feet). Triple jump is useful in Self Defense when encountering multiple obstacles in the environment. The theoretical and practical considerations of execution are identical with those of long jump in running (landing on one's feet). We think the performance of 10 m jumped from running by triple jump (the length of the jump is measured from the first beat for the first bounce) is a notable achievement for current students.

Test 11: osteoarticularocoxofemoral mobility. Finds its usefulness in our research to measure somatic development and motor performance of performing techniques of hitting with the lower limb and also vital capacity of effort. In current practice, the individual does not have adequate time for heating and stretching but the motric capacity (in our case the motric capacity from fight who is different from fighting power) is directly

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influenced by the osteoarticularocoxofemoral. So we have to develop and measure students participating in Self Defense classes and the evolution of the distance from the ground to the pool joint when executing the string on the left side, the string on the right and the splits. As an important element of specific biomechanics, we present here the conditions for the hands to be in the air parallel to the ground (for equilibrium) so that they cannot support the body and the feet are straight without the knees bent. Here we have two different measurements can be done about the distance from the ground: the distance where the ache occurs in the joint and in the muscles and the distance where the pain is intense and unbearable. Here again occurs a new problem about how we normalize ache and intense pain because each individual has different thresholds of psycho physical sensations. For medical reasons, we do not recommend going beyond the distance where the ache occurs. These metric values are influenced by the biochemistry of the endocrine system specific to each individual. Osteoarticularocoxofemoral mobility has higher values among women due to the particularities of their endocrine system. Due to the specificity of our problem it is difficult to impose a minimum threshold and a maximum threshold of the distance between the hip and the ground when performing osteoarticularocoxofemoral mobility in Self Defense. However, each student must be aware of the issue of osteoarticularocoxofemoral mobility and develop it continuously. The problem of injuries to the locomotive system can lead to the impossibility of testing osteoarticularocoxofemoral mobility.

Test 12 : relay race with the shuttle (repetitive tests). 10 repetitions x 10 meters with various and diverse utilitarian applicative exercises. It has been extracted from the chapter of motion games that is always present in school curriculum. We consider this exercise to be useful in developing at the same time strength, speed, endurance, skill - coordination in all of their forms of manifestations (reaction speed, repetition speed, isometric force, effort capacity, spatial-temporal coordination, etc.) in various and diverse circumstances described by the self-defense issue. At the end of the 10 meter distance to be covered by various movements, the student will perform various combat techniques (without repeating the battle technique in a shadow box system), gripping and touching various objects to develop both cognitive and motor skills. Here comes a paradox : injuries and dysfunctions of the locomotive system prevents execution and testing, but the injuries and dysfunctions diminish during the execution of these repeated exercises in motion games. Coach teacher must individualize (with wisdom) for each student the motric tracks so that each student can maximize his motor and psychological development.

Test 13: Burpee (**squat thrust)** exercise also referred to in slang language as "Korean push ups" is the one that crowns these tests and Self Defense specific control rules proposed by us. The Burpee exercise has the great advantage that it is very close to the real dynamic physical and mental dynamics in the fight (multiple and intense mixed effort in maximum and super maximum parameters stretched over a long period of time). It will record the number of repetitions and the time interval in which they were unfolded. Exercise can be done in the basic version for beginners and / or in the extended version with the execution of a push up with support in both hands, the entry into a squatting position followed by a explosive bounce, in X form, as high as possible vertically with arms and hands as far as possible from the body. This variant is more physically demanding and not suitable for everybody. The most demanding area of the body is of course the lumbar area which leads to intense pains and stopping repetitions. Overweight people will therefore have more forbiddance to perform this exercise.

We draw attention to the issue of biomechanics (the knees should not be on the ground, the complete execution with maximum amplitude of the movements), as well as medical and labor protection issues (any kind of medical problem, orthopedic traumatic, prevents the execution of the exercise due to the maximum and over the maximum intensity of the execution!).

In the second part of the paper we will discuss how we choose the parameters we measure and how we measure them within student tests and rules of control. Anthropometric and anthropological parameters specific to a human biotype specific to yielding in Self Defense are considered to be part of another scientific study. Due to the multitude of forms of manifestation of these vector valued parameters, we are referring to them altogether and not individually per each and every test. It easy to record the number of repetitions and the time interval in which they were unfolded, but this is ”basic ground zero”.

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Thus, we should measure and collect various and multiple vector valued data, taking into account factors such as speed(s), distance(s), amplitude of the angle(s), time(s) (time of execution, time of resting between two repetition, time of reaction, time to recovery, etc.), frequency, minimum and / or maximum number of repetitions, the weight of body biomass before and after effort, biochemistry specific to ergophisiology (respiratory volume, variation volume (max. and/or min.) of O_2, variation volume (max. and/or min.) of CO_2 , breathed, lactate, uric acid, phosphocreatine, carbohydrates, etc.), pulse, tension, respiration rate, consumption of resources in effort (for performance) and post effort (for rapid recovery), variation in body temperature and human bioelectricity, pressure exerted on the ground, variation in time and space of the center of bodily weight, psychological comfort, rate of recovery as fast as possible after effort, etc., in all their forms of manifestation because "psycho physical performance ranks between pathology and morbidity" and "there is no major difference between the top training of athletes, cosmonauts, aviators and special forces troops." All these vector valued parameters must be individualized for each and every student in order to overcome them and to break the personal record in optimal health conditions.

Unfortunately, practice shows that these scientific considerations of utmost scientific importance regarding the assistance and recording of psycho physical tests by specific tests and control rules remain only on paper and can't be applied in practice from multiple complex and related causes.

Upon written recording in the statistics of the student's psychic motor performance, the training teacher should consider measurement errors but also remove the student's deception factor when he/she reports a higher value for a high score. The issue of organizing the student class also occurs. In the research institutes in the sports field / the human psycho motric field we encounter a subject that is being tested and at least 3 researchers performing various physical activities (monitoring recording devices, individualized assistance on the subject to be tested, etc.). Arithmetic tells us that a minimum of 90 researchers are required to measure objectively and rapidly the ongoing events in a class of 30 subjects. We explain this issue of lack of qualified staff for psychic motoring testing by pointing out again that there is no difference between training athletes, cosmonauts, hunting pilots and special military forces. These socio professional categories benefit from a full team of specialists who are committed to accurate measurements according to standardized working procedures of the various parameters deemed as important in the construction and design of the scientific experiment. Current classes of students practicing Self Defense and combat disciplines extract from physics Martial Arts are made up of about 100 students. In the school and university practice, the trainer teacher is the sole responsible for all these issues that go beyond him and thus the errors in the subjects' tests occur.

Conclusions and recommendations

In the physical training aimed at Self Defense, we need to find those specific tests that help develop the motor skills and abilities relative to the utilitarian applicative techniques. See, for example, the issue of long jumps in running when it is not carried out at the sand pit and the landing has to be done by standing up so that we can move quickly, so their implementation is based on the constraints of the actual confrontation.

A special issue regarding the real value of physical training of students in Self Defense classes is the performance of tests and measurements in ideal conditions (gym, athletic field, etc.), the measurement being made by a single teacher involving many errors. In addition, these data are poorly correlated with current practice where there are numerous unforeseen issues preventing the development of a proper psycho physical performance (adverse weather conditions, medical issues, multiple assaults coming from the environment, poor sensations and perceptions on the environment, psycho social pressure, uncomfortable clothing and large luggage, etc.).

The control rule of a test (the number of maximum repetitions performed in exercise X) involves the following issues: The current student being poorly trained both mentally and physically (even displays pathologies of non motricity and psycho motricity), we take as initial starting point 0 (ZERO) repetitions (for many and various reasons) and we are following individual progress. This maximum number of repetitions must also take into account resource consumption (maximum yield with minimal effort), post effort recovery rebuilding time, etc., but also the psychological comfort of the performer.

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We recommend practicing tests where the maximum number of repetitions are measured under the guidance of a teacher trainer giving verbal command (one - break to repeat, two – break to repeat, ...) to facilitate the development of the psycho physical development by imposing a time and tempo of reaction to stimuli received from the environment, but also to boost student to go beyond the personal psychological threshold of individual performance. The student will stop repeating where his maximum effort limit is (and will remember the number of repetitions), and the trainer teacher will continue to count until the entire class has exhausted the current motor psychic potential. Only repetitions that are correct from all points of view will be accounted for and not just any kind of "pseudo reps". Thus, although it is desired to achieve the highest performance, only those biomechanical correct executions and not all "pseudo repeats" will be taken into consideration. The issue of correct breathing (prolonged double expiration on muscle contraction) should be included in the assessment of correct execution in order not to develop additional pathologies.

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KINETOTHERAPY SECTION

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HIGHLIGHTING THE VALUE OF KINETIC PROGRAMS IN THE COMPLEX MOTION THERAPY

Evidenţierea valorii programelor kinetice, în cadrul complex al terapiei prin mişcare

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Abstract

Background. Physical exercises have been practiced for prophylactic and curative purposes since ancient times.Based on the principle of combining prophylactic and therapeutic means in motion therapy, we can associate with to the means of medical gymnastics other therapeutic methods, such as therapeutic swimming, which strengthen the action and increase the capacity of the specific means.

Objectives. The aim of the study was to select and structure the specific means of kinetotherapy and therapeutic swimming, using multiple possibilities of correlation and combination, in order to help improving the recovery process in ankylosing spondylitis (for reducing the recovery time and increasing the efficiency

Methods. The research methods used were: documenting by studying specialized material; Case study, applied to a single subject, a student diagnosed with ankylosing spondylitis; Measurement and testing method necessary to objectify all processes undergoing scientific research.

The study was conducted over an university year, and was divided into three stages: in the first stage, the initial evaluation of the subject, the second stage, the development of the kinetotherapeutic intervention program, and the last stage of the final evaluation, the processing of the test data and the interpretation of the results .

Results. Kinetic treatment has played an important role in improving ankylosing spondylitis. The medical gymnastics programs and the therapeutic swimming programs had as a reference: the local postural re-education, regaining the figure, regaining strength; and encompassed means to relieve pain, muscular toning and increase mobility of affected joints.

Conclusion. Physical therapy was very important for regaining the mobility and contributed a lot to resuming the normal daily activities of the patient. Thus, for a complete success of the treatment, physical exercise should be a daily activity even after the disease enters remission, throughout the complex therapy through motion.

Keywords: kinetic programs, students, motion therapy

Introduction

Physical exercises have been practiced for prophylactic and curative purposes.

The first references to "motion therapy" are found in the Chinese writings of 4700 years ago. This is the Cong Fu pain relief system.

Based on the principle of combining prophylactic and therapeutic means in motion therapy, we can associate with to the means of medical gymnastics other therapeutic methods, such as therapeutic swimming, which strengthen the action and increase the capacity of the specific means.

In order to obtain complex prophylactic and therapeutic effects, special forms and methods of medical gymnastics are developed, determined by the particularities of certain groups of disorders or by the individual clinical needs.

For the physical therapy program to be effective, the practitioner must adhere to a set of principles, which are subordinate to the basic principle, applicable to any form of therapy; it is the principle of Hippocrates, the father of medicine, in the form of the dictum: Primum non nocere !, that is, First, do not hurt! This requires appropriate theoretical and practical training of the teacher and adapting the kinetic program to the individual particularities of the patient and the stage of the disease.

Case study highlights the value of the recovery program in complex motion therapy as well as in the prevention of algic relapses, constituting an important means of secondary kinetoprophylaxis.

Ankylosing spondylitis (SA) is an inflammatory disease with predominant damage to the axial and obligatory scaffolding of the sacroiliac joint, but also to the peripheral joints. It can also carry out a wide range

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of extraarticular determinations. Manifestations vary a lot, and the clinical spectrum ranges from a simple pelvic disease (sacroilitis) to a serious and progressive multisystemic suffering.

The individualization of ankylosing spondylitis as a stand-alone entity was due to the introduction of the radiological examination for the detection of early sacroilitis and the discovery of the relationship with HLA-B27 histocompatibility antigen.

Since three decades ago, it has been reported that the frequency of ankylosing spondylitis is 20 times higher among spondylists than in the general population. However, genetic factors are not the only ones involved in the etiopathogenesis of ankylosing spondylitis, and their action depends, to a certain extent, on peristalsis. The greatest relevance for the genetic hypothesis in ankylosing spondylitis is the close association of the disease with the HLA-B27 antigen.

Treatment of ankylosing spondylitis has long been a challenge for clinicians based on NSAIDs and exercise. Optimal management of patients with spondylitis consists of the combination of pharmacological and non-pharmacological treatment, the failure of the two therapies often requiring orthopedic treatment. The two types of therapies should be complementary to prevent disease progression with ankylosing, to relieve pain and improve quality of life, reducing morbidity and mortality.

The aim of the study was to select and structure the means of kinetotherapy and therapeutic swimming, using the multiple possibilities of correlation and combining, to help improve the recovery process in ankylosing spondylitis (in order to reduce the recovery time and increase the efficiency).

The research methods used were: documenting by studying specialized material;

Case study, applied to a single subject, a student diagnosed with ankylosing spondylitis; Measurement and testing method necessary to objectify all processes undergoing scientific research.

-The case study. To highlight the effectiveness of the kinetic program, we organized a case study at the DEFS of the University of Bucharest, applied to a single 19-year-old student during a university year, following the evolution of the diagnosis, following the application of kinetotherapy and swimming program therapeutic.

Study hypothesis. We believe that through the efficient use of medical gymnastics and therapeutic swimming in the physical education lesson, as well as an independent physical activity program at home, health will be improved and will contribute to improving the quality of life.

Organization of the Text

The research was carried out both in the gym of the University of Bucharest and in the Steaua Basin. To highlight the effectiveness of the applied program, we organized a case study, applied to a single patient, a 19-year-old student with Q = 164 cm, G = 47kg, diagnosed with HLA-B27 ankylosing spondylitis. The study was conducted over a university year (October 2015 - May 2016). It is divided into three stages: in the first stage, the initial evaluation of the subject, the second stage, the development of the kinetotherapeutic intervention program, the final stage of the final evaluation, the processing of the test data and the interpretation of the obtained results.

Symptoms: Patient AM, aged 19 years, presents for investigations on mixed arthralgia (at initiation of the movement louder than at rest, but without later alleviating the movement), debut 7 months ago, originally at the shoulder left, which improves one month after the periarticular infiltration of Diprophos. Six-week (two weeks before Diprophos) occurred partial left mechanical metatarsal pain; a three-week pain occurs at the right sacroiliac joint, and one week and the left metacarpian-phalange joint (MCF) III with the extension limitation.

Medical Analyzes:

MRI sacroiliac joints: Straight sacroiliac joint shows inflammation-like signal damage at both syllables of the joint that associates the synovial contrast sink and subchondral geodex with a 4.3 mm diameter on the iliac versus. There is no evidence of inflammatory changes in the left sacroiliac joint or in the coxofemoral joints.

VSH: 46mm / h (0-20mm / h)

Reactive Protein C: 12mg / L (0-5mg / L)

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The first dose of Sulfasalazine 500 mg with 1 capsule / day is started initially, then increased by 1 capsule / week to 4 capsules / day. Also, anti-inflammatory, Diclofenac 50mg, 1 capsule twice a day is also given.

Training project developed under the issued assumption comprises medical gymnastics and therapeutic swimming programs.

Programme's Content

The kinetotherapist programme has as starting points three marks:

- recovery treatment in addition to labour classic, charged on land, in physical shortcomings, either globally, or segmentation, it is recommended that, due to its multiple aquatic values, and recovery.

The patient underwent exercises involving the lumbar and cervical segment. For the lumbar region, dorsal decubitus flexures, ventral decubitus extensions, and vertebral column depressions and flexions and four-pivotal extension were performed. Also, exercises with the stick and the trellis were performed.

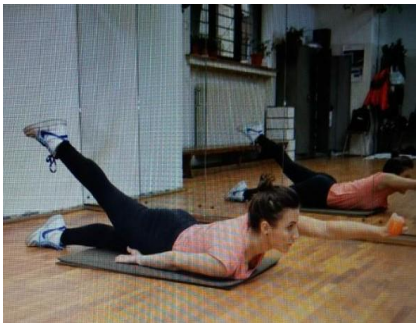
Fig. 1.


Fig 2.


Fig 3.


Fig. 4.


Fig 5.


Fig 6.

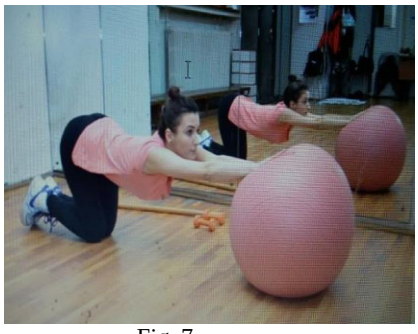
Fig. 7.


Fig 8.


Fig 9.

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Fig. 10.


Fig 11.


Fig 12.


Fig 13.

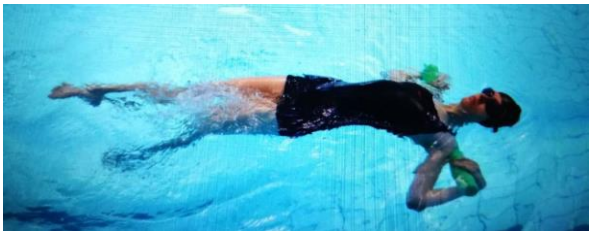
Fig. 14.


Fig 15.


Fig. 16.


Fig 17.

It is recommended at home to maintain a correct posture, frequent head and neck movements, sleeping on the hard bed, stomach state for 20 minutes before bedtime and waking. Exercises should be 2-3 hours / week, swimming being considered the most useful.

Analyze and interpret the results of the case study

The kinetotherapeutic program had three starting points: local postural re-education, regaining the flexibility, regaining strength and encompassing means to relieve pain, muscular toning and increased mobility of affected joints.

The study shows that exercise performed both in physical education classes and, as an independent activity, at home improves short-term functionality compared to lack of any therapeutic intervention. It is recommended to maintain a correct posture, frequent head and neck movements, sleeping on the hard bed, stomach state for 20 minutes before bedtime and waking. Exercises should be 2-3 hours / week, swimming being considered the most useful.

Physical exercise plays an important role in the prophylaxis of vicious attitudes and the correction of what has already been done in patients with SA. In principle, a program of this kind should be introduced as early as possible, graduated according to the clinical condition of the subject and maintained throughout its life, except for the short period of activity. Keeping in mind the non-prescription rule, moderate medication and / or moderate therapy may be used to facilitate kinetotherapy.

Although the primary goal in AE is not to strengthen muscle strength but to improve joint mobility, the first kinesiological achievements to be introduced are isometric exercises during which the subject is required to

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contract his paravertebral muscles and belts. The emphasis is on the extension, and gradually, it goes to free exercises, which are primarily vertebral and respiratory. The vertebral spine exercises are preferably performed in low positions and emphasis is placed on the more severely affected regions. These will be complemented, where appropriate, with movements directed to the peripheral joints.

The patient underwent exercises involving the lumbar and cervical segment. For the lumbar region, dorsal decubitus flexures, ventral decubitus extensions, and vertebral column depressions and flexions and four-pivotal extension were performed. Also, exercises with the stick and the trellis were performed. Following physical therapy sessions, the patient observed pain relief and increased mobility of affected joints.

Although medical treatment had an important role in relieving pain, kinetotherapy was very important for the development of mobility and greatly contributed to the resumption of normal patient activities. Thus, for a complete success of treatment, physical exercise is recommended, and for spondylolytic patients it should be a daily activity even after the disease enters remission.

Conclusions on the Case Study

From the results of the study, I highlight the following conclusions:

- In the presented case study, we selected and structured the specific means of kinetotherapy using the multiple correlation and combination possibilities to help improve the recovery process in the ankylosing spondylitis (in order to reduce the recovery time and increase the efficiency);
- We believe that through the efficient use of medical gymnastics and therapeutic swimming in the physical education lesson, as well as an independent physical activity program at home, it has improved mobility and suppleness as well as health and has helped to improve quality life.

Physical therapy was very important for the mobility and contributed a lot to resuming the normal activities of the patient. Thus, for a complete success of treatment, physical exercise should be a daily activity even after the disease enters remission, within the complex of motion therapy.

Based on the principle of combining prophylactic and therapeutic means in motion therapy, we can associate with the means of medical gymnastics and other therapeutic methods, such as therapeutic swimming, which strengthen the action and increase the capacity of the specific means.

Proposals

-While Romania faces a record number of vertebral deficiencies, authorities need to resort to some urgent measures, including:

- information activity of students on health and risks of untreatment in time of vicious attitudes;
- protection programs to prevent static vertebral disorders by increasing the number of hours allocated to physical activities;

-About an interdisciplinary approach to such a complex problem, as motion therapy, in general, and kinetic in particular, can provide good results and implicitly professional rewards.

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STRESS – DISTURBING FACTOR IN THE MEDICAL RECOVERY PROCESS OF VARIOUS TRAUMAS

Stresul – factor perturbator în procesul de recuperare medicală a diverselor traumatisme

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Abstract

Premises. Detecting stress-predisposed patients in pre-recovery programs

Objectives. The study on the early detection of stress in patients with trauma such as: sprains, dislocation, stretches, fractures; establishing the title of the paper, study of the bibliography, hypothesis, place and period of the experiment, patient groups and methods of research.

Mehtods. In this experiment the following research methods were used: observation, experimental measurement survey, data recording, graphical presentation and questionnaire.

Results. Detecting premature stress is very important for the specialist to resort to the most effective treatment and recovery method. In this context, the patient moves more easily over the trauma.

Conclusions. Findings from early detection of stress have led to a much faster medical recovery and the patient has not been left with mental trauma.

Keywords: stress, eustress, distress, fracture, sprain, dislocation

Introduction

"Stress represents a syndrome, a constellation of non-specific responses of general adaptive character (general adaptation syndrome) caused by aggression of body stressors. It induces lesion, wear and tear, and non-specific adaptive responses mediated by neuroendocrine links." (Selye, H., 1991).

Hans Selye also introduced in 1973 in the scientific circuit the following notions:

- distress: bad stress, negative, harmful, destructive, unpleasant and harmful to the body;
- eustress: good stress, representing a pleasant, positive, vitalizing state (Selye, H.,1973).

Stress symptoms:

Trauma constitutes the stress factor which entails the following changes (Holdevici, I., 1999):

- physiological: increase in heart rate, changes in blood pressure, respiratory changes (usually acceleration);
- behavioral, motor: tremors, disorganization of fine motor coordination, decrease of amplitude, or even movement stop (motor block);
- psychological: inappropriate behavioral reactions, decrease of critical sense, narrowing the field of consciousness, development of inadequate motivation, strengthened based on the principles of domination, increase of suggestiveness (Epuran, M., 1992).

Internal and external causes:

- psychic trauma: war, accident, earthquake, flood, rape, etc.;
- negative examples: death, job loss, etc;
- positive examples: passing an exam, winning a contest, etc.;
- conflict: divorce, tense relationships with parents, friends, etc.;
- uncertainty;
- exaggerated competition spirit, ambition, perfectionism, etc.;

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- developed feeling of guilt (Gh.Aradavoaice-1999).

Stress treatment

First step:

- relaxation: walks, breathing exercises, autogenous training, meditation;
- physical exercises;
- avoidance of harmful environment;
- positive thinking;
- doctor appointments.

Classical stress treatment:

- antidepressants;
- sedatives;
- anxiolytics;
- treatment of the disease at the basis.

Homeopatic treatements:

- kalium phosphoricum;
- cocculus;
- calcarea phosphorica.

Naturist stress treatment:

- Acupuncture;
- Electro puncture;
- Reflexology;
- Therapeutic massage and relaxation.

Research objectives:

- Early detection of stress;
- More rapid recovery;
- More rapid reintegration of the patient in the related activity (school, job, family);
- The patient should not remain with mental traumas.

Hypothesis:

Early detection of stress for the patients with several traumas such as: sprains, dislocation, stretches, fractures, led to a shorter recovery time, more rapid reintegration of the patient in the socio-professional activity in the absence of mental traumas.

Paper scope, tasks and stages:

Paper scope:

- Early detection of stress for the patients with traumas by using the questionnaire “How do you respond to stress?”;
- Synthesis of the main ideas from the scientific papers and personal experience;
- Proof of the efficiency of early detection of stress;
- Completion of recovery programs in a superior mental state.

Paper tasks:

- Formation of the group of subjects by considering age, sex, diagnostic;
- Early detection of stress by answering the questionnaire “How do you respond to stress?”;
- Process and analyze the questionnaire of the experimental group.

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Patients with the following trauma injuries have been included in the study: sprains, dislocation, stretches and fractures. The experiment was conducted in the Saint Luca Hospital – Bucharest during the period May- December 2017.

15 subjects (9 men and 6 women) with ages between 30-68 years have been analyzed (Fig 4).

Research methods:

- Observation;
- Experimental investigation for measuring, analyzing data and graphical presentation;
- Questionnaire "How do you respond to stress?".

Psychologist I. S. Longer has designed a test consisting of 22 questions for measuring stress on a number of 1600 adults from Manhattan (New York).

Research results

Score computation and results:

One point is granted for answers 3 or 4 at item 3, answer 3 for item 11 and 2 at item 14. For each of the other items 1 point is granted if number 1 answer is provided.

After questioning the 15 patients, the following results were obtained (Fig 1.):

- 60% obtained between 0 – 3 points, which means that they respond normally to stress;
- 45% obtained between 4 – 6 points, which mean that they are at the limit of normal response to stress;
- 5% obtained a score above 7 points, which indicates a significant discrepancy between the requirements and the personal capacities. Measures of mental equilibrations and consultations by a specialist are needed.

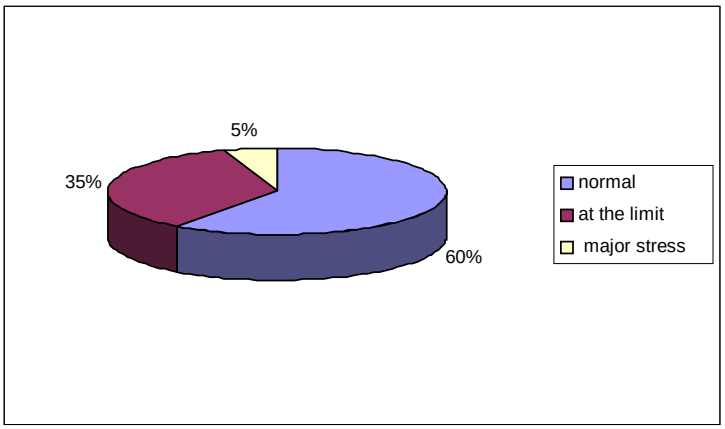

Fig. 1.

Table no. 1. The study conducted revealed that the highest percentage of injury affected the persons with ages between 51-68 years.

Age	30-40	41-50	51-68
Number of patients	3	5	7

Table no. 2. Injury structure. The study conducted revealed that the highest number of patients were affected by sprains

Injury	Fracture	Sprain	Dislocation	Stretch
Number of patients	3	4	5	3

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Table. No. 3. Kind structure

Kind	Male	Female
Number of patients	9	6

The study revealed that 5% of the questioned persons had a serious discrepancy between the requirements and personal abilities. In this case, psychological assistance is required. The team of psychological assistance may consist of one psychologist, one doctor, one physical therapist, one physiotherapist, one masseur. The terms of assistance is well known and has, in some circumstances, the aim to help the persons in need to improve their situation. Psychological assistance consists of a series of measures meant to support the patient (Epuran, M., Holdevici, I., 1983).

Early stress detection is very important for specialists in order to apply the most efficient method for treatment and recovery. In this context, the patient recovers easier from trauma, in a shorter period of time, while the reintegration of the patient in the related activities in a good physical and psychical state sooner. (Slăvilă, M., 2007).

Conclusions:

- Trauma is a strong stress factor which influences the patient from the perspective of the intensity and severity of the injury and of the psychological answer that we could detect with the help of the test for detecting stress;
- Medical recovery of the patient in a shorter period of time;
- After the medical recovery process is complete, the patient does not remain with mental trauma;
- The reintegration of the patient in activity, family and society is realized in a shorter time period.

Proposals:

- Psychological preparation should be performed always before starting the recovery process;
- Early detection of stress, depression and anxiety constitutes a very useful element for both the patient and the therapist;
- The physical therapist should pay special attention to the psychological preparation.

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AQUATIC RECOVERY PROCEDURES FOR NEUROMUSCULAR RE-EDUCATION OF LOWER EXTREMITIES USING THE BAD RAGAZ METHOD

Proceduri de recuperare acvatică pentru re-educarea neuromusculară a extremităţilor inferioare prin folosirea metodei Bad Ragaz

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Abstract.
The Bad Ragaz method is a method of stabilizing and consolidating exercises; is used to treat strengths or locomotor deficiencies, aided by the technique of devices like floating rings for neck, pelvis and ankles. Patient maneuvering by the therapist and hand-held resistance with passive, active and resistive active movements each model can be modified and adapted to a wide variety of orthopedic or neurological diagnoses.

Through this paper, we aimed to underline the importance of the Bad-Ragaz therapeutic-aquatic programs for lower limb recovery, given their effectiveness in reeducating associated physical disabilities. Stabilization and consolidation-oriented method, the Bad Ragaz method is used to treat resistance or locomotor deficiencies, aided by the technique of floating rings, neck, pelvis and ankles. Taking into account the results obtained, we consider that hydrokinetotherapy can be recommended as an effective alternative for recovery of deficiencies associated with inferior limbs.

Keywords: aquatic therapy, spinal cord injuries, swimming.

Introduction

The Bad Ragaz method is focused on stabilization and consolidation exercises; the method integrates the concept of proprioceptive neuromuscular facilitation. „Proprioceptive neuromuscular facilitation is defined as a method of promoting or hurrying the response of the neuromuscular mechanism by stimulating proprioceptors (Knott, M., Voss, D., 1978) with help in normalizing movement patterns of those with neurological deficiencies" (Becker, B., Cole A., 2004). The method is a collection of techniques that promote a response from the neuromuscular system by stimulating proprioceptors. The patient always uses the therapist's strength as a fixed base of support so the balance is guaranteed more or less continuously. The therapist's resistance is continuous throughout the movement. An important role in the recovery process is the „general acceptance of the physical limits imposed by accident and appropriate treatment" (Howley, E. T., Franks B.D., 2007).

This method is used to treat strengths or locomotor deficiencies, aided by the technique of floating rings, neck, pelvis and ankles. Exercise patterns can be modified to a wide range of orthopedic and neurological diagnoses. Patient displacement by the therapist and hand-held resistance with passive, active and resistive active movements each model can be modified and adapted to a wide variety of orthopedic or neurological diagnoses.

The applicability of the therapeutic method allows the approach of the lower extremity, trunk and upper extremity „during the implementation of original concepts, the most commonly used Bad Ragaz models allow for better control and the hands of the therapist, emphasizing the ability to facilitate or inhibit a response" (Vargas, L.G., 2004).

The patient always uses the therapist's strength as a fixed base of support so the balance is guaranteed more or less continuously. The therapist's resistance is continuous throughout the movement.

The Bad Ragaz method is a model of resilient strength and mobilization exercises that possess a variety of excellent recovery features:

- in rheumatologic, orthopedic and neurological disorders such as rheumatoid arthritis, osteoarthritis, inflammatory and chronic spinal problems or in postoperative deficiencies.

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The Bad Ragaz method is not just a consolidation technique, but a complete physiotherapy treatment concept that can be focused on modulation of pain and muscle relaxation. Specific techniques are used to achieve this goal.

All the objectives of the Bad Ragaz method can be found at the structure and functioning of the body and can be addressed separately or in combinations:

~ improving the force,
~ amplified coordination,
~ increased joint stability,
~ increased area of movement,
~ increased local resistance,
~ the lower extremity capability of wearing body weight,
~ reducing the pain level.

The objectives are used for patients with neurological, orthopedic and rheumatologic disorders and serve as preparation for therapy at the levels of activity or participation.

„When the lens is focused on neuromuscular reeducation, the principle applied to the stretch reflex can be integrated to improve contractile properties and strength in one muscle or muscle groups." (Vargas, L.G., 2004).

The Bad Ragaz method is a model of resilient strength and mobilization exercises that possess a variety of excellent recovery features:

- has a specific therapeutic regimen,
- is not used for general aquatic fitness,
- is an ideal part of the concept of complex treatment in aquatic therapy,
- the functional therapeutic objectives and functional limitations of the patient are analyzed and then the most suitable models are chosen,
- is a support for improving the strength, mobility, stability or functions of the body,
- in rheumatologic, orthopedic and neurological disorders such as rheumatoid arthritis, osteoarthritis, inflammatory and chronic spinal problems or in postoperative deficiencies,
- generally, the therapeutic models concentrate directly on the functional problem area, being used at a later stage, initially effects are created indirectly as a reaction effect (e.g. bilateral reciprocal foot stimulation models).

Activities are economic, effective, and maximize patient abilities.

The Bad Ragaz method is not just a consolidation technique, but a complete physiotherapy treatment concept that can be focused on modulation of pain and muscle relaxation. Specific techniques are used to achieve this goal. „Bad Ragaz techniques are extremely effective to increase the isometric resistance of the trunk." (Stan, E. A., 2013).

To achieve this goal, specific techniques are used:

- a stabilization and consolidation-oriented method is used to address various disorders by hand resisting with active, active and resistive active movements;
- the neuromuscular proprioceptive facilitating technique (Knott, M., Voss, D., 1978), used by therapists in Europe also included three-dimensional movements in which each model can be modified and adapted to a wide variety of orthopedic or neurological diagnoses;
- „during the implementation of original concepts, the most commonly used Bad Ragaz models allow better control and the hands of the therapist, emphasizing the ability to facilitate or inhibit a response" (Vargas, L.G., 2004);
- there is a wide range of models based on the direct approach between the therapist and the patient; the models presented in the Bad Ragaz method are grouped into three categories: the lower end, the trunk and the upper extremity;
- applied techniques consist of passive models that require no active and imposed patient involvement requiring the patient to have intact cognitive skills in order to adequately fulfill the prescribed patterns.

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It is important in building the recovery program that the Bad Ragaz method can be divided into models that work legs, trunk and arms separately. Models can also be classified as unilateral or bilateral models. Bilateral models have symmetrical and asymmetric options. All motion models are applied in the floating position on the back.

Applying the techniques of this method implies an appropriate qualification, and therefore the therapist must have the exact knowledge of the concept and a fine manipulation technique. „The motion patterns allow natural anatomical and physiological actions involving the joints and muscles involved." (Stan, E.A., 2013).

The program implies the existence of floating aids that provide patient safety and water stabilization. These flotation devices also slow down the rotation of the body. The neck and hips are supported by air-filled rings and, depending on the exercise, a third ring can support one or both ankles. „Equipment designed to assist with patient positioning by providing buoyancy assistance can be applied to the neck, extremities, or trunk. Inflatable cervical collars are used for the supine patient to support the neck and maintain the head out of the water."(Kisner, C., Colby, L.A., 2007). „A flotation collar can also be used for buoyancy support when the body is in a prone or supine position. When used for support rather than assistance to motion, flotation collars are frequently used in combination with a flotation belt or buoy bar". (Koury, J.M., 1996).

The positioning and inflation rate of flotation aids are quite specific, they must be placed so that the movement is not restricted. The rings around the ankles should have an extremely limited amount of air. When they are too swollen, the body becomes unstable and stays too high on the water.

The Bad Ragaz Method uses both active and passive active counterfeits. From a physiological point of view, only active contractions are important. The knowledge and proper activation of these counterfeits are of the utmost importance in the proper use of the Bad Ragaz models. For example, when a unilateral reciprocal pattern is used, the center of gravity moves toward the median line, causing the body to roll. To prevent this, the contractions must be followed precisely. Movements that appear as a passive active counterfeit have a high therapeutic value because these are automatic, reactive movements that the patient may be aware of. These automatic movements appear with a low level of force, appear slowly and can be easily controlled by the therapist.

„The advantages of hydrotherapy for injuries with primary muscle damage are:

- decreased stress on joints, especially weight-bearing
- reduction of pain and muscle spasm
- improved circulation leading to the dispersal of hematoma and edema
- decreased swelling.

All techniques would progress to the advanced stages as the condition improves. Conventional exercises would become buoyancy resisted, performed with increasing speed and range. Further resistance may be provided manually or by increasing the size and number of floats. Bad Ragaz patterns to strengthen muscles and increase the range of movement would be employed and the changes in shape in hydrodynamic exercise would be larger, demanding greater muscle work, balance and coordination." (Campion, M.R., 2000).

Conclusions

Activities are economic, effective, and maximize patient skills in applying this method.

„The Bad Ragaz ring method concept is used for aquatic rehabilitation of patients in the early stage. The treatment goals in the method are always at the level of body functions." (Brody, L.T., Geigle, P.R., 2009).

In the Bad Ragaz method, the patient is allowed to determine the strength value, depending on the speed of movement and resulting from water rubbing. This method increases the difficulty of activity by placing distal stabilization. Such strategies increase the complexity of activity because the patient has to control larger body segments during the movement.

The Bad Ragaz method is used to improve the body segment movement by increasing the central nervous system efficiency with sensory input.

In anterior poliomyelitis „the Bad Ragaz techniques may be of interest to the older child who can understand what is required and become intrigued by the patterns of movement. For the younger child, these

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techniques are of little value and the physio-therapist's ingenuity will be taxed to encourage similar movements in another form. As respiratory function may have been affected by the disease, the importance of breathing control and the need to improve respiration are evident." (Campion, M.R., 2000).

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APPLICATIONS OF THE AI CHI METHOD IN AQUATIC PROGRAMS

Aplicațiile metodei Ai Chi în programele acvatice

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Abstract.
The Ai Chi method is based on the realization of an aquatic exercise program involving relaxation methods. It is designed to help the fluid and strong progression of the movements performed by the patient and the therapist. Ai Chi aquatic therapeutic programs are beneficial for all parties involved in the activity, the patient and the physical therapist.

The many benefits of Ai Chi come from respiration and relaxation, linked to the relaxed contemplative state. The method has a strong positive impact on removal of musculoskeletal and chronic pain in cardiopulmonary conditions, as well as in vascular and metabolic conditions and in psychological, neurobiological and cognitive conditions.

Keywords: aquatic therapy, method.

Introduction

The Ai Chi method is based on developing an aquatic exercise program that involves relaxation methods. It is designed to help the fluid and strong progression of the movements performed by the patient and the therapist. Ai Chi aquatic therapeutic programs are beneficial for all parties involved in the activity. Through accurate, rhythmic and relaxed executions, the area of movement and mobility can be improved. Ai Chi technique is created by combining the Tai Chi method with Shiatsu concepts and Watsu techniques. It is made from vertical to water-to-shoulder levels, using deep breathing combinations and slow, wide arms, legs and trunk movements.

In Ai Chi practice, posture and activity are emphasized through the vertical axis of the body to keep the mind and body in balance (Konno, J., 2004). Ai Chi is a new way of working for high-speed movements or for those who have developed incorrect motion models as a result of a lesion or surgery.

Ai Chi is aware of muscle activity and movement patterns, with attention to body posture and breathing, combined with visualization and vertical positioning images that help place the body in the right alignment.

Like Tai Chi, Ai Chi combines slow, fluid rhythmic movements with controlled breathing. Motion patterns involve large body muscle groups in symmetrical or asymmetric movements in both feet or on one foot, exercises that can improve mobility and strength. When combined with diaphragmatic breathing, these motion patterns can amplify relaxation and reduce pain.

Most of the benefits in using this method in the hydrotherapeutic recovery process are reducing stress, increasing energy levels, increasing caloric intake and better movement, are a result of deep breathing. Breathing is physical function both voluntarily and involuntarily (Rakel, D., Mercado, M.A., 2007). To get a relaxed state, breathing and mind must be in harmony to control breathing.

Recently have been developed clinical studies on the benefits of Tai Chi techniques combined with hydrotherapy. Both types of treatment include physical training of balance, mobility, strength, coordination and sensory input that could complement each other.(Salvador, I., M.H., 2015).

In Ai Chi, diaphragmatic breathing, respiratory physiological system is most effective:

- extends the diaphragmatic floor of the descending thoracic cavity (Guyton, A.C., 1981) and determines the enlargement of the chest;

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- it produces negative pressure in the chest, which forces the air in the lungs and pulls blood in the chest, increases venous return to the heart (Rakel, D., Mercado, M.A., 2007);
- improves the lymph flow, which is rich in immune system cells, thus contributing to the prevention of infection in the lungs and other tissues (Rakel, D., Mercado, M.A., 2007);
- it draws oxygen in the deepest parts of the lungs of the lungs where better exchange takes place, increasing the supply of oxygen and nutrients to tissues and the removal of carbon dioxide (Rakel, D., Mercado, M.A., 2007);
- is necessary relaxation of abdominal muscles during inspiration.

Chest respiration is ineffective because the largest amount of blood flow occurs in the lower lobes of the lungs, areas that are not well oxygenated. Chest breathing moves up the chest cavity during breathing at maximum capacity during intense exercise.

Benefits of Ai Chi. Many of the benefits of Ai Chi come from breathing and relaxation, related to the relaxed contemplative state.

Musculoskeletal and chronic pain as an example for which this method is very appropriate to practice.

Practicing techniques of slow motion and diaphragmatic breathing have demonstrated:

~ increasing relaxation;
~ lowering of muscle tension;
~ improving the control of symptoms;
~ facilitating recovery after back pain related conditions;
~ in scoliosis conditions and carpal tunnel syndrome;
~ in musculoskeletal or surgical injuries and sports injuries, derived from the effects of buoyancy, mild and controlled movement, and coordinated breathing;
~ relieves the symptoms of osteoarthritis;
~ increasing the level of satisfaction with the general health;
~ increases muscle strength and lower end resistance;
~ positively affects the postural stability, important in the elderly;
~ reduces the response to stress-induced pain that traditionally increases muscle tension;
~ alignment, balance and stabilization are skills that can be improved by slow motion techniques; the balance learned in water translates well on land;
~ sinking joints diminishes compression and joint swelling (Cole A., Becker B., 2004);
~ water properties combined with Ai Chi movements can improve the range of motion and mobility.

From a musculoskeletal point of view, the area of movement is an effective means of maintaining the integrity of connective structures and soft tissues.

Cardiopulmonary, vascular and metabolic conditions is another reason for which this hydrotherapeutic method can be successfully used.

In different studies of Tai Chi programs, positive cardiovascular effects were found (Lai et al., 1995) as well as:

~ oxygen consumption and significantly higher workload;
~ increased cardio respiratory function;
~ soft tissue flexibility;
~ the practice of slow motion techniques and diaphragmatic respiration activates the inhibitory parasympathetic nervous system. (Geigle P. R., Brody L. T., 2009);
~ decreases heart rate, reduces blood pressure;
~ improving respiratory and cardiovascular function;
~ it reduces the consumption of oxygen;
~ creates a neutral respiratory coefficient and lowers blood lipid levels (Chopra D., 1989);

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~ reduce vegetative instability and improve heart rate variability (Pal, Velkumary, Madanmohan, 2004),
~ Ai Chi respiration can inhibit neuronal responses because a stress response produces an increase in the respiratory rate, decreases the tidal volume, and a change in chest breathing occurs (Gatti J., 2003);
~ the challenge of a parasympathetic or inhibitory response increases vagal modulation, decreases heart rate (Courtney R., 2000), thus improving the breathing function;
~ diaphragmatic breathing exercises reduced postoperative complications in patients who underwent cardiac or pulmonary surgery (Chumillas et al 1998);
~ lowering of blood pressure and anxiety are the results of relaxation accompanying diaphragmatic respiration (Gatti J., 2003);
~ Ai Chi breathing as a form of treatment is beneficial in lowering essential hypertension (high blood pressure due to unknown causes) that is common in our society.

Recent studies confirm the benefits of including this form of therapy in various aquatic treatments „Older people with osteoarthritis of the hip or knee can obtain clinically worthwhile improvements in physical function from hydrotherapy or Tai Chi". (Mackintosh S., 2008)

Also, Wortley and all found that „Tai Ji was also effective for improving mobility". (Wortley, M. et all, 2013).

For psychological, neurobiological and cognitive conditions.

Practicing slow motion techniques accompanied by diaphragmatic breathing produces activation of the right hemisphere; decreases sympathetic nervous system excitation and increases awareness; lowers the activation of the hypothalamic - hypophysi - suprarenal axis (Courtney R., 2000) and improves the psychological state associated with chronic illness, anxiety and depressive disorders, anger management and stress-related arrhythmias (Geigle P.R., Brody L.T., 2009).

Diaphragmatic breathing has been shown to alleviate the response to stress; stress that can contribute to malaise such as back pain, neck tension, headaches, fibrochastic nodules, muscle spasms, indigestion, stomach burns, stomach ulcers, palpitations, shoulder and chest pain, insomnia, sleep disturbances, anxiety , depression, dyspnea, nausea and fatigue (Rakel D., Mercado MA, 2007). Stress increases muscle tension and vasoconstriction, thereby reducing blood flow throughout the body (Rakel D., Mercado M. A., 2007). "Throat tension causes muscle aches and headaches, stomach tension affects digestion and tension in the body increases blood pressure. Relaxation through diaphragmatic breath reduces blood pressure and workload of the heart and decreases muscle tension "(Geigle P.R., Brody L.T., 2009).

Conclusions

This therapeutic method is not included in our country's preventive and treatment hydrotherapy programs, in part because hydrotherapy is not sufficiently promoted as a therapeutic modality but also because this practical application is not included in specialized textbooks for students.

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VARIA SECTION

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HEALTH, A SINE QUA NON CONDITION OF SPORTS PERFORMANCE

Sănătatea, condiţie sine qua non a performanţei sportive

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Abstract

In the context of the alarming increase in the number of sports accidents with serious consequences, namely permanent or temporary inability to play, infirmity or death, the present scientific approach aims at highlighting the primordial role of health, which is - in our opinion – a sine qua non condition of sports performance, as well as some aspects of the legal liability of athlete, of the coach and of the doctor of national or Olympic team in situations where they fail to comply with their obligations under the legal provisions on working and rest time, periodic rest periods (daily and weekly), athletic leave, medical leave, health and safety at work, accidents at work, control and medical assistance, World Anti-Doping Code and International Standards, biochemical assistance, health insurance, etc.

The paper aims to analyze the main categories of rights and obligations that ensure the protection of the health of athletes, and at the same time wishes to be an alarm signal in the prevention of sports accidents or athletes' deaths as a result of their activity.

Keywords: sports accident, athlete, coach, death, sports medicine doctor, health, legal liability

Introduction

Often, we forget the profound meaning of the dictum: ***"MENS SANA IN CORPORE SANO".***

Between sport and health there is a strong interconditioning: physical education and sports have a defining role in the health of the individual, of a community, of a nation. Equally, ***health is a sine qua non condition of sports performance,*** which can be defined in terms of the following:

1. ***a healthy family life during childhood.***
2. acquiring general correct principles of living.
3. practicing physical education exercises, starting from kindergarten, continuing in primary school.
4. theoretical and practical training (technical, tactical, psycho-physical) in a sports discipline,
5. health, "the treasure that few know to appreciate, although almost everyone is born with it." (Hippocrates).

The alarming increase in athletes' deaths, the deterioration of their health status as a result of sporting activity, has prompted us to focus on one of the most important, if not the most important, factor of sports performance.

Health, a sine qua non condition of sports performance

"*Valuing the individual's skills in an organized selection, training and competition system, aiming at improving sports scores, making records and winning*"(Article 13 of the Physical Education and Sports Law no. 69 of April 28, 2000), performance sports can only be done under "health" conditions.

It is well known that, following the CJEU decision ruled in the ***Bosman Case*** *(*https: //curia.eurona.eii/icins/upload/docs/application/pdf/2010-01/tra-doc-ro-arret- c-0415-1993-200802177-05 00.pdf), in 1995, the professional athlete is considered a worker, which leads to a complex approach to his status.

If for the full-time employee, ***the working time*** is 8 hours a day, 40 hours week, and in the case of young people up to 18 years, the working time is 6 hours a day, 30 hours a week, we notice that in the case of performance athletes the working time is allocated differently due to the specific sports activity, namely: training, competitions, cantonments, etc. so ***that the working time cannot me regulated tale qvale in an***

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individual regular employment contract governed by the Labour Code, but it is necessary to regulate an employment contract adapted to sports, in particular.

The employee, the sports club must take all due care to ensure the best conditions in the sport activity and, at the same time, to comply with ***the provisions on safety and health at work, as defined by Law no.319 (2006), in order to avoid work accidents***.

We emphasize that "persons performing state or public interest duties, including during sports activities, in the country or outside the country, during and due to the performance of these duties can suffer work accidents "(According to Article 5, paragraph 1, letter g of Law 319/2006), as well as "in organized cultural activities during and due to the performance of these activities."

Athletic performance is conditioned by the proper restoration of the body of the athlete, so that ***periodic rest (daily and weekly),*** rest leave adapted to the activity carried out during the competitive sports year is also important.

In physical education and sports, ***control and medical care are mandatory*** (Article 54 of the Physical Education and Sports Law no. 69 of April 28, 2000). And at the level of performance sports, the participation of legitimate athletes in training and sports competitions is conditioned by regular medical checkups or whenever necessary, and by the ***existence of a favourable medical opinion, issued only by the sports medicine units.***

Control and assistance of legitimate athletes is carried out by the Ministry of Health through the medical and sports medical assistance and research units (Article 57 paragraph 2 of the Physical Education and Sports Law no. 69 of April 28, 2000):

- The National Institute of Sports Medicine, for national and Olympic teams;
- the county medical polyclinics of sports medicine, for all athletes from their territory;
- specialized medical practice, organized in the territorial polyclinics, for the athletes from their territorial range, and those organized within the national sports complexes and sports clubs, in trainings and competitions.

The complex medical control of legitimate athletes shall be performed on a half-yearly basis in the health care units empowered to provide the medical-sporting approval necessary for participation in the training and official sports competitions, respectively in the sports medicine practices within the county specialized ambulatory units, in the Polyclinic for athletes of the municipality of Bucharest and specialized ambulatory units for athletes (Article 1 of the Technical Norms of April 24, 2003 approved by Order no. 1.058 / 404/24 April 2003). The half-yearly preventive medical check-up of legitimate athletes includes (Annex no.1 of the Technical Norms of April 24, 2003): medical-sports anamnesis; complete clinical examination on devices and systems; laboratory examination: blood count, R.B.W, urine test, ESR, blood group, T.G.P., glycaemia; cholesterol, ionogram (Ca, Mg); pulmonary anteroposterior radiography; ophthalmology and ENT examination; dental exam; somatoscopic, somatometric examination, body composition, dynamometry; functional explorations: effort cardiovascular test, spirometry, exercise capacity (aerobic, anaerobic) depending on endowment; exam of synthesis and issue of the medical-sports opinion; ECG on rest and in effort.

Unregistered students and students participating in school or university sports competitions perform half-year medical examinations (General Clinical Exam, Physical Development Examination and Ruffier cardiovascular test) ***in school and student medical practices or other health care facilities*** (Article 2 of the Technical Norms of April 24, 2003)***, followed later by endorsement of participation in competitions***.

The sportsmen of the national and Olympic teams will perform the medical check-up 3-4 times a year at the level of the medical-sports unit they belong to and within the National Sports Medicine Institute Bucharest (INMS, 2018), as well as, at the request, one / two multidisciplinary medical checks at training camp sites (Article 3 of the Technical Norms of April 24, 2003).

For combat sports: judo, martial arts, rugby etc., at least three annual medical checks are recommended, of which two macro-checks and one / two intermediate micro-checks focused on health condition (Article 3 par. 3 of the Technical Norms of April 24, 2003).

The medical-sports certificate issued, including the results of the examinations, the medical indications and contraindications, and the medical visa on the legitimating card are of particular importance to the athlete as they are mandatory, a condition upon participation in training and official competitions (Article 5 of the Technical Norms of April 24, 2003).

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Equally important for performance sports is the provision of ***medical assistance to training and sports competitions.***

Failure by athletes, coaches, healthcare professionals to comply with the provisions on health check of athletes, and medical-sports assistance in national sports facilities, in the cantonments of national and Olympic teams and healthcare at sports facilities during training and competitions attracts, as appropriate, civil or criminal liability (Article 2 of the Order no. 1.058 / 404 / April 24, 2003).

Emergency Medical Assistance (Articles 13, 14, 16, 17 of Order no. 1.058 / 404 / April 24, 2003):

• at training, it is provided by the medical staff of the sports medicine practices and by the hired medical staff of the clubs and sports associations (Article 13 of the Order no. 1.058 / 404 / April 24, 2003).

• at the clubs' training and competitions, which have hired medical personnel, it is provided by this personnel (Article 16 of the Order no. 1.058 / 404 / April 24, 2003).

• at the sports facilities, which do not have sports medicine practices, including for sports accidents, trainings and competitions, it is provided, at the request of the organizers, by the medical staff from the local sanitary units. Contest organizers must provide emergency medical assistance, including for sports accidents, by requiring in this respect an appropriately equipped self-care emergency ambulance and accompanied by healthcare professionals, in accordance with the legal regulations in force both the medical ones and the sports one of each federation. Responsibility for non-provision of medical assistance rests with organizers of sports events.

The national or Olympic team doctor plays an important role in performance sports, as he continuously pursues the athlete's health, assesses his / her ability of effort, works with coaches and physicians in sports clubs and federations (Article 29 of the Order no. 1.058 / 404 / April 24, 2003); his/her medical indications regarding the health of athletes are mandatory for coaches and athletes (Article 30 of Order no. 1.058 / 404 / April 24, 2003). Also, the national or Olympic team doctor is responsible for the correct setting of nutrition and the restoration of the physical capacities of athletes, for the creation of effort support schemes, and for the recovery of the consequences of trauma as soon as possible (Article 31 of the Order no. 1.058 / 404 / April 24, 2003).

Nutrition is an essential element in training, in competition, and in the recovery of the athlete. Specialists consider that "ensuring energy requirement is part of the preparation of athletes. Moreover, to ensure the best results, this element is paramount" (Martin, S., A, Tarcea, M., 2015).

Knowing and complying with the ***World Anti-Doping Code and applicable International Standards*** fall under the attribution of the performance athlete. In addition to temporarily or permanently suspending from sports activities (training, participation in competitions), anti-doping rule violations also have other consequences: social (isolation of the athlete), financial (loss of income, sponsorship, contracts) etc. In addition, the health of athletes can be severely affected and sometimes irreversible. ***"Clean" sport is for every athlete a right, but also an obligation.***

The increasingly scientific character of the sport training has imposed on the great performers and their coaches, the composition of teams of specialists from different fields to monitor and objectify the effects of physical effort on the body. Today it is inconceivable without the biochemical (energy, enzymatic and hormonal) diagnosis of the training state, which tends to become the most loyal means of controlling the implementation of the training programs and which tries to give an objective response to the essential questions of the sports training theory.

Biochemical assistance (National Research Institute for Sports)***, particularly important for sports performance, offers:***

1. ***Diagnosis of athletes' effort and recovery capacity***, which involves baseline measurement of acid-base equilibrium parameters (blood pH, oxygen pressures and blood carbon dioxide, current and standard plasma bicarbonate values, oxygen saturation haemoglobin, lactic acid) and clinical biochemical parameters (SPOTCHEM - total proteins, albumin, triglycerides, transaminases, creatine phosphokinase, lactate dehydrogenase, calcium, magnesium, haemoglobin).

2. ***Making corrections of the training plan*** based on the degree of adaptation to effort and individual biochemical reactivity - involves checking the main biochemical stimuli used in training.

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3. ***Providing advice on the use of the most appropriate means and methods of post-effort recovery***: effort supportive and post-effort recovery medication (administration mode, doses, etc.), increasing the amount of active mass, eating problems, weight problems, etc.

4. ***Managing and solving adaptive crisis situations caused by inadequacy in training programs.***

5. ***The punctual preparation of competitions*** of interest by maximizing the adaptive accumulations achieved in the training program, which requires the intervention of the biochemistry laboratory 10-12 days prior to the match (baseline measurements - Spotchem and acid-base balance - at am interval of 5 days) and setting the strategy of gradual narrowing of the training.

"*Athletes, in general and especially those performing, are subject to imminent risks of injury, which objectively justifies the conclusion of health insurance, without which the sporting activity should not be carried out****"*** (Medei, F.C., 2017).

During his/her sporting career, ***the performance athlete may suffer accidents causing his/her injury or even his/her death***. There are many examples in this respect (https: //ro.wikipedia.org/wiki/List football% C8% 99th deceased% CS% 9Bi on the ground, accessed on 28.02.2018): January 13, 1889, William Cropper, broke his bowel during a football match, dying the next day; August 27, 1902, footballer Di Jones died of an infection caused by a knee cut; April 8, 1907, footballer Tommy Blackstock (Manchester United), after having hit the ball with his head, collapsed to the ground and died; February 5, 1936, Jimmy Thorpe, the Sunderland goalkeeper, being diabetic, entered a coma from which he did not come back, attributed to the tough game of Chelsea opponents; February 2, 1993, footballer Michael Klein suffered a heart attack during training; July 24, 1999, Stefan Vrabioru, footballer at Astra Ploiesti, , suffered an internal haemorrhage during the Rapid Bucharest-SC Astra match, which caused him to die on his way to the hospital; May 6, 2016 footballer Patrick Ekeng made a cardiac arrest during the match with FC Viitorul Constanta, being transported to the hospital where he died.

We note, therefore, ***that sport performance also involves an alteration of health condition***. Continuous monitoring of health status, regular medical checkups, early detection, and treatment of various diseases, illnesses, and appropriate recovery from injuries suffered prevent the limitation or cessation of sports activity and even sudden death on the field.

As the risk of injury is permanently present in the career of the athlete, ***health insurance also plays a very important role for him***. Part of the public health system, regulated by Law No. 95/2006 on health reform as well as the social security system, health social insurance are mandatory for performance athletes and represent "*the main funding system for the protection of the health of the population, which provides access to a basic package of services for policyholders and aims to protect them against the cost of medical services in the event of sickness or maternity"*(Article 219 (1) - (2) of Law no.95 / 2006).

Social health insurance confers on sportsmen and women the right to benefit from the "*basic medical package****" in the public health system*** (Article 221 (c) of Law no.95 / 2006): hospital care, emergency home visits and unassisted health care, home care and home palliative care, rehabilitation medical care in balneary sanatoriums and medical recovery in other sanatoriums and facilities provided in a time range of 14-21 days / year / insured, in one episode, with a minimum of 4 procedures, medicines, with or without personal contribution, based on a prescription, medical devices intended to recover organic or functional deficiencies in ambulatory care, primary health care, basic medical services for dental medicine, etc. At the same time, the quality of the insured gives the athlete the opportunity to request the European Health Insurance Card (EHIC), which entitles them to the necessary medical assistance during their temporary stay or travelling, for tourist, professional, family or study purposes, on the territory of the EU Member States, the European Economic Area or the Swiss Confederation.

Optionally, the performance athlete must also conclude a *"medical subscription at certain clinics, where there are possibilities for treatment in their own network for certain sports-specific conditions – eg. knee disorders – rupture or lesion of meniscus, of anterior crossed ligament, spinning dislocation"* (Medei, F.C., (2017).

At the same time, ***a private health insurance (optional)*** gives athletes access to medical services both at private clinics and in some state hospitals, covering hospitalization, surgical interventions, treatments, complex

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investigations not included in the basic medical package, granted according to the Law no.95 / 2006 on the health reform.

In order to cover the risks of death, total permanent inability to play, temporary inability to play, accompanied by hospitalization / ambulatory treatment, surgeries, additional medication expenses, loss of financial rights to participate in the game, as a result of temporary incapacity, the performance athlete must also necessarily conclude an ***accident insurance contract***, which gives them the right to an allowance corresponding to the risk produced.

Conclusions

In order to prevent tragic events in the field of sports, such as the death of Fiorentina captain Davide Astori on March 4, 2018, before the Udinesse match, or injuries with serious consequences (temporary or permanent disability to play), it is imperative for the performance athletes, sports clubs, national or Olympic team physicians to strictly observe all the contents of the concept of health: working time, rest time, periodic rest (daily and weekly), athletic leave, medical leave, occupational health and safety, accidents at work, control and medical assistance, World Anti-Doping Code and International Standards, Biochemical Assistance, Health Insurance etc

We appreciate that national and local authorities, together with sports clubs, should be more involved in ensuring that performance athletes have a legal status compatible and comparable to the European one starting from regulating rights and obligations in a special employment contract able to guarantee the right to healthcare and to provide them with adequate social protection, covering all the risks to which the athlete may be subjected in his / her training activity, on his/her way to performance.

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Article 13 of the Physical Education and Sports Law no. 69 of April 28, 2000, as subsequently amended and supplemented
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Article 31 of the Order no. 1.058 / 404 / April 24, 2003
Article 54 of the Physical Education and Sports Law no. 69 of April 28, 2000, as subsequently amended and supplemented
Article 57 paragraph 2 of the Physical Education and Sports Law no. 69 of April 28, 2000, as subsequently amended and supplemented
Article 219 (1) - (2) of Law no.95 / 2006 on Health Reform, republished, as subsequently amended and supplemented
Article 221 (c) of Law no.95 / 2006
According to Article 5, paragraph 1, letter g of Law 319/2006, the work accident is "the violent injury of the body, as well as the acute professional intoxication that takes place during the working process or in the performance of the duties and causes temporary incapacity of work of at least 3 calendar days, invalidity or death "
Annex no.1 of the Technical Norms of April 24, 2003
Hippocrates

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INMS provides the following services: "initial control, of selection for performance and periodic, under the conditions established by the INMS leadership, of medical-sport circuit every 4 -6 months, of the national junior, youth and senior national Olympic teams, and the first division teams in the national sports games championships; specialized investigations on request in the lab for effort and functional tests or in another laboratory, under the conditions set by the INMS management for all categories of athletes; specialized medical assistance in case of illness or trauma; medical and sports assistance at the national and Olympic teams' cantonments according to the number of high-education and average education medical staff available in the institute's organization chart; medical-sports expertise for athletes from the institute's records or from the territory sent to perform the check by the Sports Medicine Network Units", according to http://www.inms.ro/, accessed on 26.02.2018

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***National Research Institute for Sports

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TEACHING ENGLISH LANGUAGE IN THE HIGHER INSTITUTIONS OF PHYSICAL CULTURE AND SPORT

Predarea limbii engleze în institutiile superioare de cultură fizică şi sport

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Abstract

Background. The training of communication skills in English is necessary both for the teaching activity of each student and for his professional development, a good specialist in the field of physical culture. The formative nature of university education is the reference framework of the initial vocational training system of the future sports teachers for efficient verbal communication in English in the international area, for a better cooperation of sports specialists.

Studying a professional foreign language contributes to the development of professional abilities and attitudes by exploring the fields of other disciplines with different contents. In the process of teaching / learning English to students, professional competence is developed, but by reporting individual situations and activities of learning, reception and production, typically of foreign languages, to those of the mother tongue, a unitary conception is created about the functioning of the language as an essential element of communication. In this respect, there is a need to develop a model for the communication skills in English of students in the field of physical culture.

Aim of research. Optimization the professional English language skills training process for students from Physical Education and Sports Faculties.

Research objectives:

1. Studying the theory and practice of the educational process in the English discipline from the State University of Physical Education and Sports (SUPES).
2. Appreciation of the level of English professional language to SUPES students.
3. Determining the content of the English language course in order to build communication skills in foreign languages.
4. Acquisition of sports terminology and ability to read foreign literature.

Research methodology. Analysis and generalization of literature, study of working documentation, pedagogical observation.

Results. Using this communicative approach in teaching is that: learners learn from what they hear from the communicator, "their oral production" will be greatly increased, they will develop fluency and their level of motivation will increase.

Conclusions. Foreign language is necessary to the future sports specialist not only as a means of selecting scientific information but also as a means of communication (in exchange of experience, in international sports competitions and for personal contacts, etc.).

The training of English professional language to SUPES students helps in the knowledge and application of sports-pedagogical language, in the formation of general and special cognitive skills, on the basis of which they will undertake the learning and evaluation activity according to the requirements of the modernized curriculum in physical education.

Keywords: Teaching communication, communicative competence, English language, student

Introduction

Language is one of the most important skills that students acquire, and it is also a key element in acquiring the profession in the university environment. The development of English language includes the following aspects: phonetic, lexical, grammatical and semantic evolution. For the future specialist, the knowledge of a foreign language means the increased ability to communicate, wide access to documentary sources which, moreover, has a strong educational valence, thus the student familiarizing with the history, geography, culture and spirit of other nations. Mutual knowledge, understanding, tolerance, appreciation of diversity are therefore facilitated. Learning a foreign language requires the formation of new auditory skills and articulators, developing only partially based on the sound system of the mother tongue. Learning a foreign language is not possible without first learning the pronunciation of that language. Since vocabulary learning is an integral part of the study of the language, sufficient time must be given to this important problem. In the explanation of the lexical material, it is not only the translation of the words into the mother tongue, but it is used in any circumstance the auxiliary material, as well as the mimic, the gesture, which will help to name the objects,

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to suggest the meaning through different exercises. In terms of the transformations that the contemporary world knows, in the period of globalization, of interferences and interdependencies of all kinds, the learning, knowledge and use of foreign languages is a condition of progress, of successful integration, both on an individual level and on a social scale, in the successful structures of the millennium III.

In the context of today's modern society, there is a need for sports students to be able to communicate in a foreign language of international circulation, English being the most used of them. The educational reform in the Republic of Moldova is oriented towards stimulating interactive approaches that will lead to higher efficiency of the school education and to place the student in the centre of the educational act. Mastering English opens new perspectives of student knowledge, which will have access to widespread information, as well as an open path to computer use, becoming a necessary accessory nowadays.

The study of English is more a necessity than a tendency or preference. The interest in learning and knowing it is determined by global trends: globalization, interculturality, the need to educate personalities who accept to live in a diverse, multicoloured and tolerant society, to understand people representing different cultures while also ensuring the progress and prosperity of national culture. Learning English is not only about acquiring vocabulary and phonetic, morphological, grammatical, semantic structures, but also about new means and ways of thinking, reflection, visions and philosophies about contemporary civilization.

From a pedagogical point of view, the formation of communication competence in foreign language becomes a strategic goal, sustained at the level of the European education policy, which is reflected in:

1) The White Book on education and training, where is "stipulated the necessity of learning three European languages", starting with pre-school cycle (1995);
2) The Common European Framework of reference for languages, which "has led to major changes in the teaching, learning and evaluation of modern languages", promoting "orientation to the functional aspects of the language" (2000);
3) The European Language Portfolio, which includes:
   a) The linguistic passport valid for all European Community states;
   b) The linguistic biography –"Memory of the learning itinerary" (formal, informal, informal);
   c) The dossier –"a selection of materials chosen by the student to justify progress" at the level of linguistic competence and intercultural experience development (2001);
4) European Year of Languages, initiated by the Council of Europe and the European Union (2001);
5) Resolution on the linguistic diversity training and multilingual education, adopted by the UNESCO General Conference (2003);
6) The European profile of the foreign language teachers, which focuses on "four basic dimensions" (knowledge and understanding, strategies and competences, values), with a unitary vision "on the language proficiency" (2004);
7) Making use of the study "Key data on foreign language teaching in schools", which highlights the fact that:
   a) "over the last three decades, the frequency of compulsory language teaching has increased since the school age";
   b) the time spent in primary education, which is crucial for the quality of language learning, is still limited (10% of the curriculum);
   c) learning a foreign language begins with primary education, at the age of 8-10 years, but earlier, as a tendency towards generalization (Cristea, S., 2016).

In the Republic of Moldova, the issue of communication competence was studied by Pâslaru, Vl., Callo, T., Hadârcă, M., Solcan, A., Sadovei, L. Aspects of curricular reform in the perspective of curricular development are addressed in the studies signed by Callo, C., Silistraru, N., Pslaru, Vl., Guţu, Vl., Botnarciuc, L., Solcan, A., Afanas, A., Sadovei, L., Titica, S., Ixari, A., Pruteanu, M., authors who developed a curriculum concept based on the basis of educational objectives and promoted it in the context of curriculum development. (Guţu, V., 2007).

In the general scientific context - the theory of communication competence in the field of language education elaborated by Callo, T.,; the concept of communication competence by Hadârcă, M.,; concept of

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content in curricular vision –Silistraru, N.,; curriculum theory –Gutu, Vl., Puslaru, V., Silistraru, N. We consider it imperative to design an applicative research of communication competence in a foreign language in the process of foreign language teaching / learning, research which is in line with recent scientific studies and with the approaches of the educational practice in the country. The events of the last years are conditioned by the fertile research in the field of English professional practice and the valorisation of the methodology of forming the Specialized Lexicon as a didactic notion (Rivers, W., 1981; Buhbinder, V.A., 1989; Solcan, A., 2005, Pruteanu, M., 2006, Afanas, A., 2007, Botnarciuc, L., 2007, Nation, P., 2008, Milsitchi, V., 2012, Ixari, A., 2013, Duca, V., 2013, etc.), which can be framed in the professional training process in the field of sport. The pragmatic value of sports language refers primarily to sports a teacher that gives it functionality, and secondly to theoretician specialists, that gives it utility from the sporting needs lines. Language as a phenomenon occurring and reproducing through materialization in conversations, interpretations, explanations, conceptual clarifications, etc., needs a substantiation in the sense of the practical importance that is attached to it based on the formative basis of education. Imperative in the use of sport language becomes an area of research interest, the most current idea being the interpretation of sporting language as a phenomenon of sports practice. (Guțu, V., 2007). These guidelines are also explained by recent educational policy papers (the Education Code and Sectoral Strategy-Education 2020). In this context, the training of foreign language communication skills of athletes becomes a study objective in the Republic of Moldova. These desiderata led us to the following contradictions of the existence of disagreements in the capitalization of didactic competence as a model for the formation of foreign language communication competence:

- between the university teaching staff's mission in order to teach students to communicate effectively in foreign languages and the lack of initiative and interest in student foreign language communication;
- the impact of foreign communication of athletes and the insufficient orientation of the higher education system towards the ability to communicate in a foreign language;
- the values of the foreign language lexicon and the failure of the teaching staff to capitalize on this potential in the formation of the student's communication skills in the foreign language, which in fact generates the problem of research: determining the theoretical and praxiological guidelines and premises of the English communication skills of sports students.

Aim of research

Optimization the professional English language skills training process for students from Physical Education and Sports Faculties.

Research objectives:

1. Studying the theory and practice of the educational process in the English discipline from the State University of Physical Education and Sports (SUPES).
2. Appreciation of the level of English professional language to SUPES students.
3. Determining the content of the English language course in order to build communication skills in foreign languages.
4. Acquisition of sports terminology and ability to read foreign literature.

Research methodology: analysis and generalization of literature, study of working documentation, pedagogical observation.

The communication skills in foreign languages thus acquire a superior pedagogical functionality, employed at the level of multilingual education, "dimension of intercultural education, asserted in different social, global, territorial and local contexts". This superior pedagogical functionality capitalizes in a positive form the tendency of: a) to extend the reference area of communication competence in foreign languages to a multi-ethnic reality, belonging to postmodern societies, which calls for constantly developed evolutions in the area of interdependence between the psycholinguistic approach and the sociolinguistic approach; b) normative affirmation according to the principle of intercultural approach of any linguistic communication in open, varied, diversified, differentiated, individualized psychosocial contexts. (Cristea, S., 2016).

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The didactic communication appears as a particular form, obligatory in the circulation of certain contents, specific to a systematic assisted learning act. The particularities of the didactic communication include: the explanatory dimension, the structure of the didactic communication according to the pedagogical logic, the active role of the teacher towards the specific contents, the coherent combination of the two verbal oral and written forms. In this context the factors of efficient communication were identified: psychological variables, cognitive variables, social variables of communication. (Iacob, L., 1994). Didactic communication involves a feed-back interaction on both explicit and adjacent information intended or formed in the course of communication. The note of reciprocity specific to the act of communication is precisely what distinguishes it from information (this is the act of making known, sending a message to be received by the recipient).

Jinga, I., (2008) defines didactic communication as an exchange of messages between teacher and student, characterized by the following particularities:

- is in line with the educational objectives pursued by the process;
- is a communication that provides an important information transfer, content "education bearer";
- is an effect of learning but also generates learning;
- generates learning, education and development through the active and participative involvement of the educator in the didactic act.

In this respect, Cristea, S., (2016), considers that the formative priority dimension of pedagogical communication engages the following operations, realized and integrated by the teacher at the level of the educational and didactic action:

- total mastery of the educational message content;
- total exploitation of the broadcasting means of the educational message "in a manner that would make the recipient (student) to receive the communicated content".

The area of motivation includes "the whole of the moves, needs, tendencies, affections, interests, intentions, ideals that become reasons for accomplishing certain actions, deeds and attitudes" (Cojocaru-Borozan, M., 2009), "the totality of the internal moves of the behaviour, whether physiological or acquired , conscious or unconscious, simple physiological needs or abstract ideals" (Кулюткин Ю. Н. 1972). It includes delicate and not at all simple components that are capable of channelling and mobilizing human behaviour, from the necessity of satisfying the needs, the purpose, the ideal, determining its activity (in our case the activity of the student in the process of learning a foreign language) activity, processed on the circuit of general pedagogical objective values, specific pedagogical objectives; knowledge of resources (the quality of the group / student environment) and the (external) conditions for the efficient achievement of the activity; logical and functional organization of teaching / learning / evaluation content within training units (disciplines, study modules, chapters, subchapters), with description of "specification tables" developed to "small steps"; finalizing the concrete, operational objectives, deduced from the general and specific objectives, adapted to the conditions of the group of students, the student environment; developing the necessary pedagogical correspondence relationships between: the concrete objectives and the resources of the activity (content / methodology / training conditions) and the modalities of the evaluation of the results (anticipated through concrete objectives), Guţu, V., Silistraru, N., Platon, C., (2003).

Types of didactic activities that directly or indirectly enrich the lexical baggage are numerous and varied: reading the text and explaining the words; framing of words in various contexts, thematic, morphological classification of words, analysis of the structure of the word; text reproduction, creation of the beginning, end of the text, using certain words; operation with homonyms, antonyms, paronyms, etc. (Pruteanu, M., 2001). At the same time, the conditions and modalities of forming the linguistic and sociolinguistic competence of sports students are highlighted, and these are highlighted in several modules of acquiring the sports lexicon through the contextualization stage, the stage of decontextualization and recontextualization. The training of foreign language communication skills focuses on:

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- student awareness of the importance and necessity of studying a foreign language; "competence of the teaching staff involved in the professional activity of the students, justified by the correct interpretation of the principles of SL knowledge; changes in society, advances in science and technology in this millennium" (Gorea, S., Eşanu, D., 2015), reflected directly in the vocabulary; knowledge of SL in English including the presence of the student - knowledge transmitter, receptive to international and local events in the field of sport.
- the theoretical framework of research certifies and validates the integral function of the scientific sports language, which facilitates the interdisciplinary correlations and approaches for the coherent, concentric, systemic and integrated acquisition of the notions and phenomena related to the field; is based on the principle of scientific interdisciplinarity, defining and SL training " (Gorea, S., Eşanu, D., 2015).
- the formation of English communication competence to sports students was based on the integration of the three types of competences: linguistic, sociolinguistic and pragmatic based on learning situations through various ways started from the sports text
- epistemology and motivation of training the foreign language communication skills are materialized by the following principles of general, linguistic and pedagogical scientific knowledge: scientific interdisciplinarity, cultural education and communication, pedagogical interdisciplinary and systemic approach to SL training process, quality and practical effectiveness of SL, integration and correlation of SL training methodology.

John Amos Comenius mentioned that "training young people properly does not consist to take into their head a lot of words, phrases, expressions and opinions from different authors, but to open them the way for to understand things". It is said that the need for learning a foreign language is almost as old as human history itself. Learning a language is related to sensations and experience, says John Amos Comenius, a Czech teacher, educator and writer, considered the father of modern education."Teaching must be oral", he continues.

Traditional teaching methods, characterized by a relationship of authority and based on the principle according to which the teacher brought knowledge to the student who is supposedly ready to receive them, today seem inappropriate for the education of the youth masses. Today, the traditional teaching style is no longer an effective way of transmitting information. Different teaching-learning methods are implemented keeping in mind the student's needs. An effective and real-time teaching-learning process involves the use of methodology and pedagogy appropriate to the requirements of the current generation of students, the use of new technologies and a changing educational environment. The aim is to encourage students to demonstrate communication and understanding skills, reading and writing in various contexts and for specific purposes. We, teachers, need to be concerned about the development and recognition of students' ability to apply and transfer competencies in ways that are appropriate to the situations in which they are. During the lesson of English, we can "attack" different teaching-learning approaches, the use of one method or another depending on the chosen approach. Thus, the approaches and modern suggested methods are: the Person-Centralized Approach, the Communicative Approach, The Silent Way, Suggestopedia, Community Language Learning, Total Physical Response Method.

In order to apply the different modern strategies, we need to use modern teaching materials and means such as worksheets, pictures or flashcards, real-life materials, posters, brochures, leaflets, CDs (music), DVDs (movies, advertisements, poetry), drama (plays, role-plays), projects. For an effective teaching-learning act, it is good to alternate the types of teaching materials. The modern teaching techniques, which have found in the Theory of multiple intelligences (Howard, Gardner, 1983) presuppose the use of exercises that appeal to musical / rhythmic intelligence, visual / spatial intelligence, body / kinaesthetic intelligence, thus encompassing all areas of the brain, finally, the effectiveness of the training act.

Results

We therefore believe that an English teacher can use new and interesting tools to make the process of English language teaching more attractive and more effective. The use of theatre and movies in English classes can be a tool that enhances students' motivation, gives the teacher the chance to gain a deeper knowledge of

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teaching secrets, discover new ways of getting in to the minds of students, rediscover the pleasure of the game same as the method of learning and developing the human character. The principles of the communicative approach, an approach appreciated by specialists around the world, are the basis for all methods involving the active participation of students and the existence of a supreme goal: communicating in a foreign language. In the 1970s, the term 'communicative approach' and Communicative Language Teaching (CLT) appeared, and its supporters considered that the purpose of language teachers was to develop communication skills in students.

Using this communicative approach in teaching is that: learners learn from what they hear from the interlocutor, their "oral production" will be greatly increased, they will develop fluency and their level of motivation will increase.

Conclusions

Studying a foreign language with a professional aspect in the teaching-learning process, develops professional and foreign language communication skills, but by reporting the individual learning, reception and production strategies and activities, typical of foreign languages, to those of the mother tongue, a unitary conception of the functioning of the language as a primary element of communication is created.

Foreign language is necessary to the future sports specialist not only as a means of selecting scientific information but also as a means of communication (in exchange of experience, in international sports competitions and for personal contacts, etc.).

The training of English professional language to SUPES students helps in the knowledge and application of sports-pedagogical language, in the formation of general and special cognitive skills, on the basis of which they will undertake the learning and evaluation activity according to the requirements of the modernized curriculum in physical education.

In this way the process of training-learning the professional English language for students in the field of physical culture gains in meaning by constantly reporting to social practices and concrete contexts of exercising the acquired skills. Learning becomes a clear, targeted process that increases motivation for action.

Competencies mobilize the student's previous purchases, providing concrete opportunities to develop the learning process by developing competencies, which increases student motivation for learning English. Focusing on the final purchases of training offers freedom in capitalizing on the different learning styles, strategies and modern technologies to train the future sports specialist.

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SPORTS AND POLITENESS: APOLOGIES AS A UNIVERSAL RITUAL

Sport şi politeţe: Scuzele ca un ritual universal

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Abstract
The present paper is an attempt to describe the meaning and function of apologies in sports. Observations have been made on the verbal and non-verbal behavior of athletes in tennis, table tennis, volleyball, billiards etc. On the basis of the analysis made, the universality and the ritual character of the apologies in certain situations, as well as their relation to the sport's etiquette, are postulated. Their specificity is also outlined in terms of the pragmatic determinants described by Renate Rathmayr: 'the person who caused some damage'; 'the injured person who has suffered harm'; 'the damage itself'.

Keywords: communication, politeness, speech act, apology, sports

Introduction

Analyzing sports games from a communicative perspective is maybe unusual, but not groundless, as every human interaction can be viewed through the prism of communication.

According to Renate Rathmayr, the typical code of manners is not valid for sports games. She argues that unlike other activities related to human interaction, in sports each contestant (team) strives for victory using the opponent's weaknesses, taking advantage of the situation, etc. Besides, in sports it is customary for the players not to take a possible loss as a personal affront, and the actions of the opponent as specifically directed against them.

On the other hand, it can be said that rivalry and competition are integral elements of many human activities. What makes them different from the ones we see in sports is the existence of strict rules, which regulate the acceptable and inadmissible actions in any sports challenge.

Like many other fields, sports games are also characterized by some acts of purely ritual nature. Among these is the lining of footballers as the national anthems are performed before international matches, the pre-game or post-game handshaking between the opponents in tennis, volleyball, box, snooker and other sports. The apologies (both verbal and nonverbal) used in specific situations also fall within the category of such ritualistic acts.

This article is an attempt to analyze sports-related apologies with the purpose to prove that despite the specificity of communication in sports, it also reveals some universal principles, mostly determined by etiquette-based behavior.

Types of apologies

Depending on the seriousness of the occasion Rathmayr divides the apologies into *conventional ones* and *apologies in essence* (the latter being used when significant real damages have been caused).

In sports games, although sometimes the inflicted damage may have grave consequences (heavy injury, loss of a crucial point or even losing the entire game) the offered apologies are most often of the conventional type.

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1. Apologies for non-penal foul

Outside of sports, the unintended body contact is considered an invasion of personal space, which in most contemporary cultures is seen as violation of the social etiquette. In situations like these, the customary compensatory activity by the „offender" is to offer an apology.

In many sports (for instance football, basketball, handball, hockey, etc.) physical contacts are an integral part of the game. In basketball, for example, non-penal fouls are even intentionally committed to stop the opponent's attack. That is why it is safe to say that not every physical contact between the players requires an apology. However, an apology is called for upon the making of a foul (usually unintentional), which has resulted in a significant physical „damage" of the opponent.

2. Apologies for mistakes

In Rathmayr's classification of apologies, an important role is played by the so called *apologies for lack of attention and clumsiness*. The situations, in which such apologies are offered, are extremely diverse and cover all spheres of everyday communication. They are a standard speech strategy in the communication between relatives and friends, as well as between strangers (e.g. upon ignoring a customer in administrative services or commercial outlets, a spilt beverage on a customer or next-table guest in a restaurant, mistakenly taking someone else's book in the library, etc.).

In collective sports, the individual play in a situation, where a teammate would expect a pass, or a far-off passing of the ball to a teammate can be likened to the above-described cases, as the reaction of the blameful player is most often an apology to the „affected" one.

3. Apologies in the absence of guilt

These are the only apologies, which don't have analogy in the non-sporting world. In the above-cited study, Rathmayr argues that inflicting damage or disappointment to someone may become a cause for apology only „*due to the cognitive act of attribution of guilt*" (Rathmayr 2003:52). If the perpetrator does not feel guilt for the incident, he or she usually resorts to explanation, accusation (toward the affected or another person) or some other speech strategy.

Things are different in sports games such as tennis, table tennis and badminton, when a player wins a point with the help of the net. In this particular case he/she has no guilt for the damage sustained by the opponent. However, adhering to the rules of sports etiquette he/she offers an apology.

Apologies in sports games – culturally specific or universal?

In linguistic pragmatics there is a deeply rooted notion that cultural differences determine the use of apology as a speech strategy. In American culture, for example, apologies for engaging the others with one's personal issues are very common. To many Europeans (incl. Bulgarians and Romanians) such apologies sound quite strange, and for the Mediterranean cultures they are completely incomprehensible.

On the other hand, there are situations where the offering of apology does not depend on the cultural identity of communicants. This category includes, for instance, apologies for caused disturbance, for inflicted serious material or non-material damage, etc. These are defined as universal and their offering is motivated mostly by the individual qualities of the giver of apology and his/her assessment of the situation. The above described sports-related apologies can also be placed within the category of universal apologies. Regardless of the existence of undeniably important cultural differences between Americans, Englishmen, Frenchmen, Spaniards, Romanians, Bulgarians, etc., apologies for non-penal fouls, for mistakes, as well as apologies in the absence of guilt are used on a regular basis during national and international games.

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Other characteristics of sports-related apologies

Unlike other speech acts (for instance, requests), which can be realized successfully (Searle, J., 1969), only in the presence of correctly defined social and/or situational asymmetry between the participants in communication, apologies are used with no limitations across the three basic types of social interaction: when the giver has a higher position in the hierarchy than the receiver (Px>Py), when the giver stands below the receiver (Px<Py) and when the two parties are socially and/or situational equal (Px=Py).

This context determines the specifics of sports-related apologies. The interaction in sports games presupposes equality of opponents and teammates alike. This means they have identical situational roles (as players taking part in a game). Moreover, from the perspective of linguistic pragmatics, their interaction is characterized by clearly manifested role symmetry (Px=Py). Therefore, all speech acts during the game, incl. apologies, are expressions directed to a receiver having the same situational role as the giver.

Another distinctive feature of sports-related apologies is that they are always *retrospective*, or *apologies post factum*. This means they are offered after the performance of the action that has triggered the apology, and not prior to it, as is the case with the so called *preemptive apologies* (for example: *We apologize in advance for the inconvenience that the incoming repair works may cause you!*).

Linguistic and nonverbal expression of apology

One of the most important issues concerning apologies is their linguistic expression. All languages feature different conventional formulas, which the damage perpetrator may use to apologize to the affected person (for example, *Excuse me, Sorry, My apologies, Pardon me for...* in English; *Excuse-moi / Excusez-moi, Pardonne-moi / Pardonnez-moi* in French; *Scuze / Scuzați, Iartă-mă / Iertați-mă, Regret* in Romanian; *Izvinyavay / Izvinyavayte, Proshtavay / Proshtavayte, Sazhalyavam* in Bulgarian). These can be supplemented by various modal extensions (intensifiers), which increase the illocutionary force of the speech act, i.e. reinforce the apology (for instance, *I'm very sorry*, *I'm deeply sorry*, *I'm terribly sorry,* etc.).

Apart from the explicit apologies, another type can also be used depending on the relations between the interlocutors and the cause of apology, namely the indirect (collateral) apologies, which may involve the admission of responsibility and/or guilt, the expression of negative self evaluation, a proposal for compensation of the inflicted damage, a reassurance that the speaker hasn't had bad intentions, etc.

The diversity of formulas expressing apology is substantially reduced when it comes to sports. The use of short phrases is predominant in such cases, and these are uttered immediately after the occurrence of the respective cause for apology. In English such phrases are: *Sorry; It's my fault*; in French: *Pardon; Désolé(e)*; in Romanian: *Scuze, nu am vrut; (Este) vina mea; Îmi pare rău*; in Bulgarian: *Izvinyavay; Moya greshka, Sorry*. If a foul is committed, the apology can be accompanied by holding out a hand to the „affected" opponent. In case of a damage, for which the benefiting player has no fault whatsoever (e.g. in tennis), his/her apology is usually nonverbal (raising a hand).

Conclusion

In conclusion, it can be said that the apologies in sports are a universal speech strategy, used after the infliction of damages to an opponent or a teammate in specific situations. There are both similarities and important differences between the apologies in everyday life and the sports-related apologies. The latter are usually conventional and are offered in the pragmatic framework of situational equality between the participants in the speech interaction. It should also be noted that they are always retrospective. Their offering involves the use of a small number of formulaic expressions, which are the most important element and basic precondition for the successful realization of the speech act of apology.

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THE INTERNATIONALIZATION OF THE ROMANIAN SPORT IN THE LAST CENTURY

Internaţionalizarea sportului românesc în ultimul secol

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Abstract

Background. The emergence, the development and the affiliation of the Romanian sports structures (such as the Romanian Olympic Committee, the sports federations, the Sports Associations) to similar international organizations have created the favorable framework for the modernization and adaptation of sporting and competitive activity within the sports branches in accordance with international regulation.

The training of specialists (coaches, medical doctors, scientific researchers, psychologists etc.) as well as the development of the infrastructure was also targeted, which contributed to the involvement of the Romanian athletes in the European and World Competitions.

The Romania's integration into the systems of international sports competitions took place in the first decades of the 20th century, with its debut at the Summer Olympics in 1924.

An important contribution to the affirmation of the Romanian sport at the world level was brought by the representatives of the Romanian sports, elected in the governing structures and in the committees of the international sports organizations (.

In the following decades of the 20th century, Romania's international sports exchanges have enjoyed a wide development and diversification, both at sports clubs and at sports federations level, through sports activities organized in the country at all levels of sports and with external correspondence. The involvement of many Romanian cities in the organization of international sports events has also increased.

An important contribution of Romania to the promotion of sport in the world was the organization of many European and world competitions, as well as meetings of international sports organizations in all these years. The '80s and '90s represent the culmination of Romanian sport, in terms of the active federations and sports clubs, but especially of the impressive number of titles and medals obtained in international sports competitions.

Objectives. The paper aims to highlight the participation, involvement and permanent collaboration of all Romanian sports structures in the last century, in order to develop and diversify their relations with international forums, as well as the progress of the Romanian sport on a global level.

Methods. The research is an ascertaining type, aiming to highlight Romania's international evolution in the last century, with emphasis on its results in the representative sports competition: the modern Olympic Games.

Results. The international evolution of Romanian sports in the last century is evidenced by the active attendance of this country in the important international competitions, materialized in results that have known both the apogee and the decline, the essential data that contribute to the formation of the history of Romanian sport in this era.

Conclusion. Through the constant participation in European, World and Olympic Games championships, but especially through the achievement of remarkable results over time, Romania has become world-renowned as one of the countries with a real sporting potential, the craftsmanship and the record of the athletes making an extraordinary image of the country.

At the same time, Romania has proved its constructive vocation in the international sporting life, contributing to the development of sports relations between nations, to the progress of various areas of contemporary sport, to the strengthening of the unity of the international Olympic and sports movement.

Keywords: Romanian Sport, Internalization, Last Century.

Introduction

Romania is known in the world as one of the countries with great sports potential. For nearly half a century, Romanian athletes have consistently been among the protagonists of the Olympic Games, the World Championships, the European Championships, other international competitions held in countries on all continents, making an exceptional sporting image of the country through their craftsmanship.

Romania has also demonstrated its constructive vocation in international sporting life, contributing to the development of sports relations among nations, to the progress of various areas of contemporary sport, to the strengthening of the unity of the Olympic movement.

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The potential of Romanian sport, proved both in the athletes' performances and in the training of the specialists who contributed to the achievement of these performances, is at the basis of the development and diversification of the relations of the Romanian sports organizations with the international forums.

Through these relationships, it is possible to integrate Romanian sports organizations into existing international sports structures and to participate in their activities, as well as to develop the relationships with athletes from different countries.

Accession of Romanian sports structures to international sports organizations

The accession of Romanian sports structures to international sports organizations was determined and inspired by the emergence of international sports organizations and federations at the end of the 19th century. In 1894, the International Olympic Committee was established.

The Romanian Olympic Committee was established in 1914 and was immediately recognized by the CIO.

Between the 3rd and 4th decades, the affiliation process was intense, so that at the end of the forties, over 34 national sports structures in Romania were affiliated to international organizations.

In 1966, Romania was affiliated to 45 international organizations and sports federations, and in 1980 to 70 structures such as: the International Council for Physical Education and Sports Science, the International Council for Health, Physical Education and Recreation, the International Society for Sports Psychology , The International Committee for Sport Sociology, etc.

In 2000, sports organizations and federations in Romania were affiliated with more than 180 international and European sports organizations and federations and about 30 regional sports organizations. Also, several Romanian specialists were members of over 10 professional international sports organizations.

An important contribution to the affirmation of the Romanian sport at the international level was also brought by the elected Romanians in the governing structures and in the committees of the international sports organizations.

The first Romanian personality was elected as a member CIO in 1899 - Prince George Bibescu.

Fig. 1. George Gh. Bibescu (1834 - 1902), son of Prince of Wallachia, Gheorghe Bibescu

After 100 years, more than 330 Romanian specialists were elected to various positions in more than 100 organizations and the International Sports Federations.

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Romania's participation in international sports competitions

Romania's integration into the system of the world sports competitions took place between the 20s and the 30s, after the affiliation of our country's sports structures to the international ones.

In the third and fourth decades, the first Romanian participations took place in World and European Championships on sports disciplines.

After the second World War (especially since the 1950), Romania has joined the entire international competition system: World and European Championships for seniors, juniors and youth, World and European Cups, official competitions between clubs, etc.

In this half century, Romania has achieved great international results: numerous Olympic, European and World championship titles, world Olympic and European Olympic recordings in various sports, winners of European Inter-Cups and the Grand Prix.

Following the international studies, the world's best Romanian athletes were declared:

- Iolanda Balaş - Athletics (1964-1965);
- Ilie Năstase - Tennis (1972);
- Nadia Comăneci - Gymnastics (1976) and the best athletes of the 20th century (1999);
- Gabriela Szabo - Athletics (1999);
- Simona Halep - Tennis - no. 1 ATP (2017)

An important contribution of Romania to the promotion of sport in the world is the organization of numerous international competitions and meetings. Among the first international sporting events held in Romania are highlighted in the 1930s the aeronautical competitions, followed by over 40 World Championships, over 65 European Championships, the 1951 Winter World University Games, the Summer University World Games (1981) and many other international competitions.

The first international competition organized in Romania, financially and politically, took place in 1981 in Bucharest - the World University Games or the Summer Universiade, where participated 2912 students from 86 countries. In total, Romania won 67 medals, 30 gold, 17 silver and 20 bronze and the second place after the USSR. Over 5000 Romanian students were volunteers, stadiums, pools and sports halls have been upgraded and modernized, the Student Campus Regie has also been upgraded.

Fig. 2. The opening ceremony of the Summer Universiade, Bucharest, 1981

Among the last major competitions organized by Romania in recent years are:

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- Europa League Final at Football, Bucharest 2012;
- European Aerobic Gymnastics Championship, Bucharest 2012;
- The 11th Winter European Youth Olympic Festival (FOTE) - Brașov 2013;
- European Artistic Gymnastics Championship - Cluj-Napoca, 2017.

Romania's participation in the Modern Olympic Games

The Modern Summer Olympic Games - the 8th edition, Paris 1924: 51 - Romanian athletes, participants in four sports - football, rugby, tennis and shooting.
The first medal obtained at the JO: Bronze-Rugby

Modern Olympic Summer Games – Berlin 1936: 71 - Romanian athletes in 8 sports.
- The first silver medal obtained by Romania at the JO: Equitation.

First major participation in the Summer Olympic Games -, Helsinki 1952: 128 - Romanian athletes participating in 10 sports. Romania won 4 medals.
- The first gold medal achieved by Romania at the Olympic Games: Shooting.

Romania's Best Ranking at the Modern Summer Olympics - Montreal 1976: 166 - Romanian athletes participating in 11 sports. Romania ranks 5th in the medal standings. Romania won 27 medals, of which 4 gold medals.

The most controversial Modern Summer Olympics - Los Angeles 1984: 127 - Romanian athletes participating in 12 sports. Romania ranks second in the medal standings. Romania won 53 medals: 20 gold medals, 16 silver medals, 17 bronze medals.

The weakest participation in the Modern Summer Olympic Games - Rio 2016: 96 - Romanian athletes in 15 sports. Romania ranked 47th in the medal standings. Romania won 4 medals:

- 1 gold medal: Fencing;
- 1 silver medal: Tennis;
- 2 bronze medals: Canoeing, Fighting.

The best Romanian medalists at the Olympic Games:

1. Nadia Comăneci - Gymnastics - 9 medals: 5 gold, 3 silver, 1 bronze
2. Elisabeta Lipa - Rowing - 8 medals: 5 gold, 2 silver, 1 bronze
3. Georgeta Damian - Rowing - 6 medals: 5 gold, 1 bronze
4. Ivan Patzaichin - Rowing: 4 gold, 3 silver

Interpretation of data

Although there are constant results in obtaining medals over the years, although the results obtained are not directly proportional to the number of participants: for example: 239 Romanian athletes participated at the Moscow Olympics (1980) and won 25 medals, while 62 athletes took part in the Seoul Olympics (1988) and won 24 medals.

The most prolific participation of Romania in terms of the medals obtained took place at Los Angeles (1984), 53 medals. The results were influenced, of course, by the boycott of these Olympic Games by the socialist countries under the influence of the USSR.

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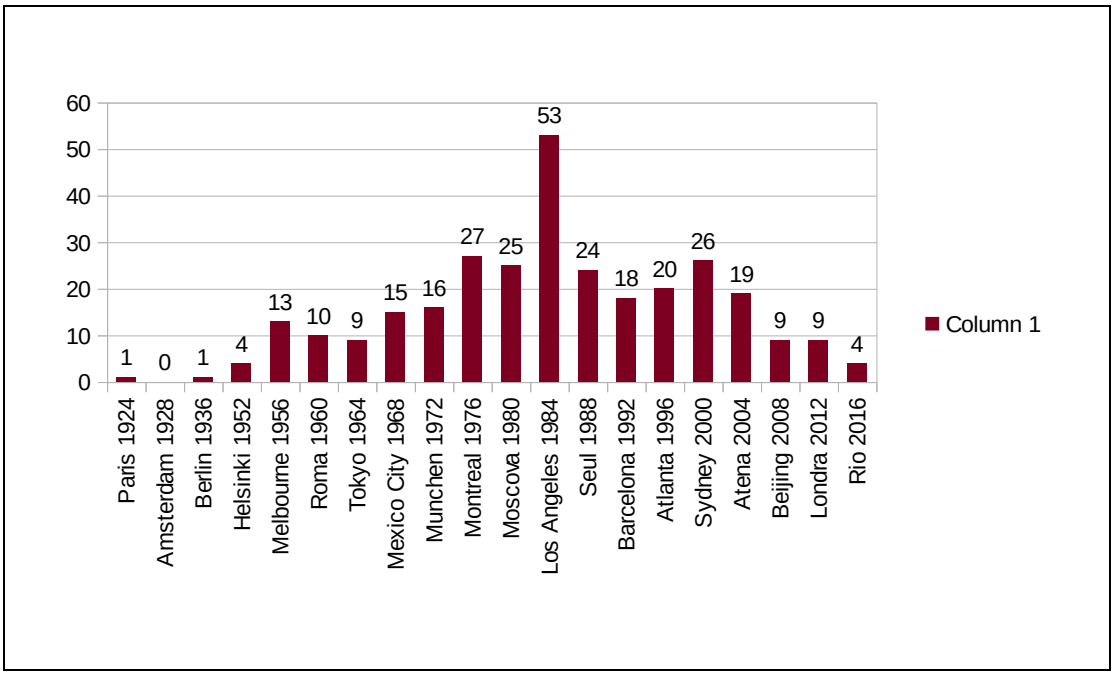

Fig. 3. Medals won by Romania to the Olympic Games

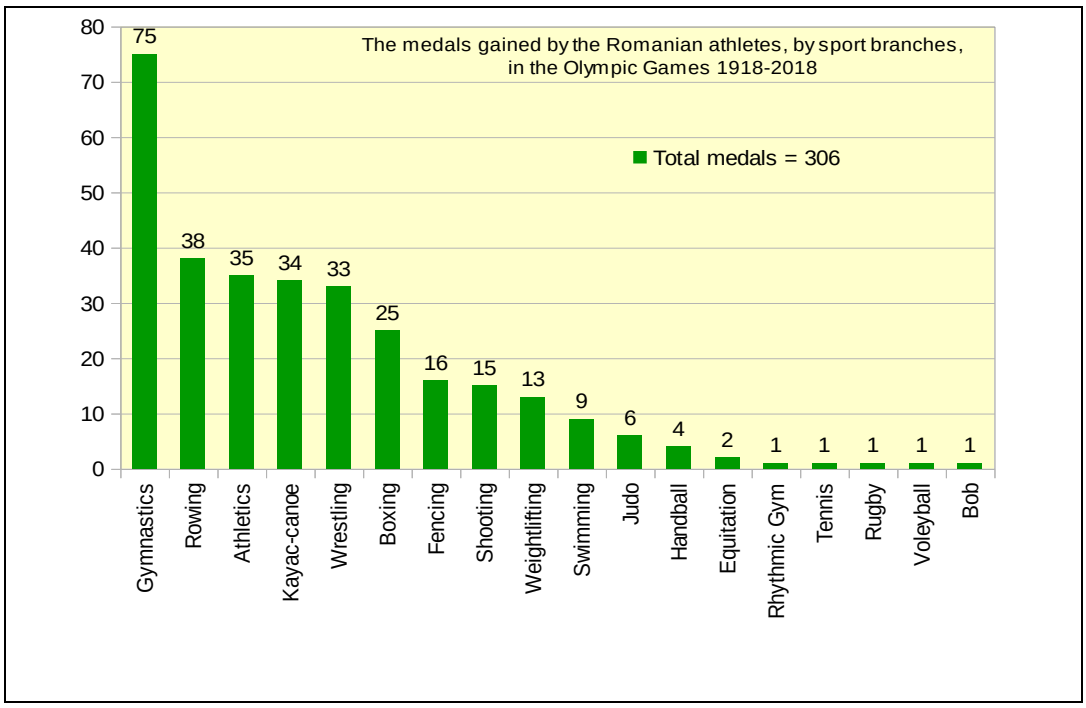

Fig. 4. Medals won by Romania to the Olympic Games by sport branches

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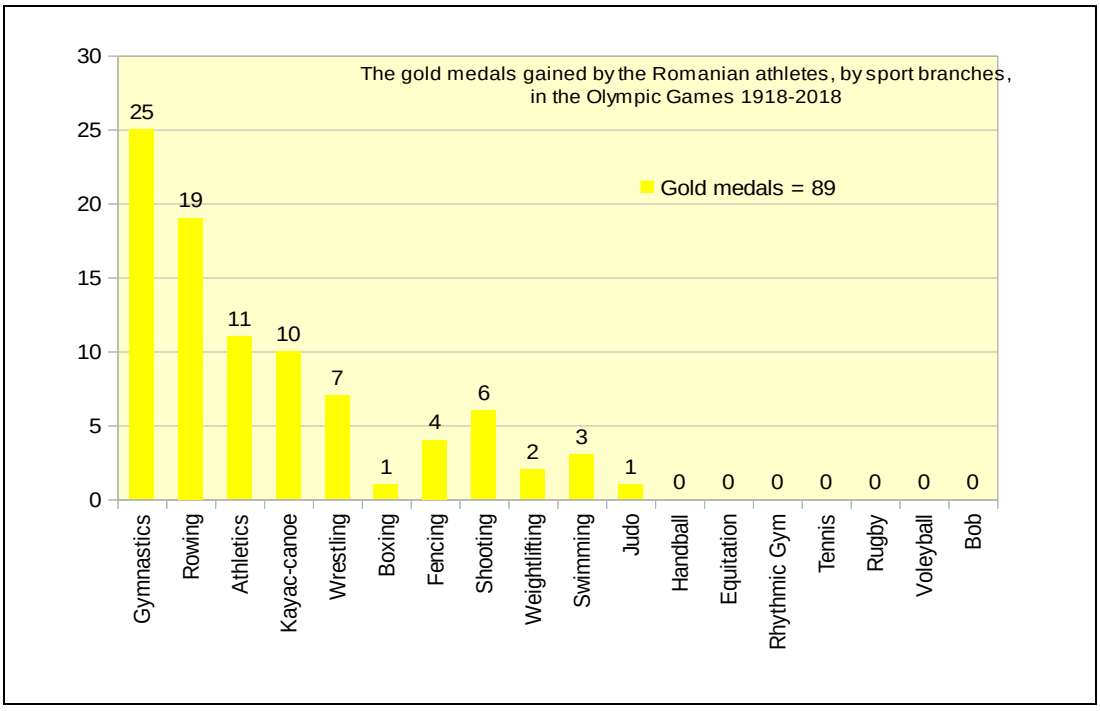

Fig. 5. Gold medals won by Romanian athletes to the Olympic Games

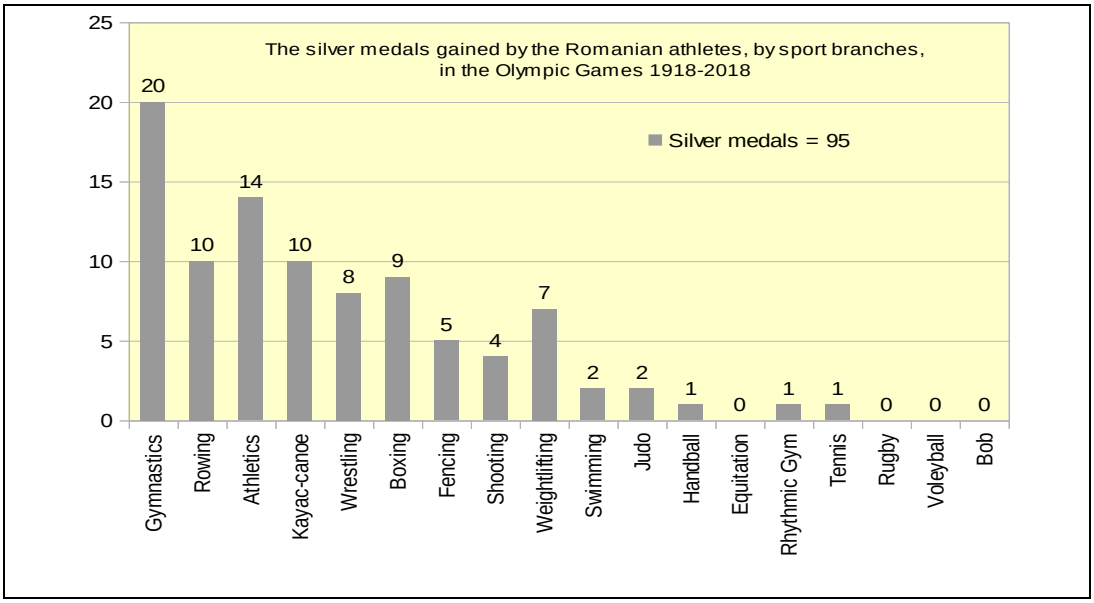

Fig. 6. Silver medals won by Romanian athletes to the Olympic Games

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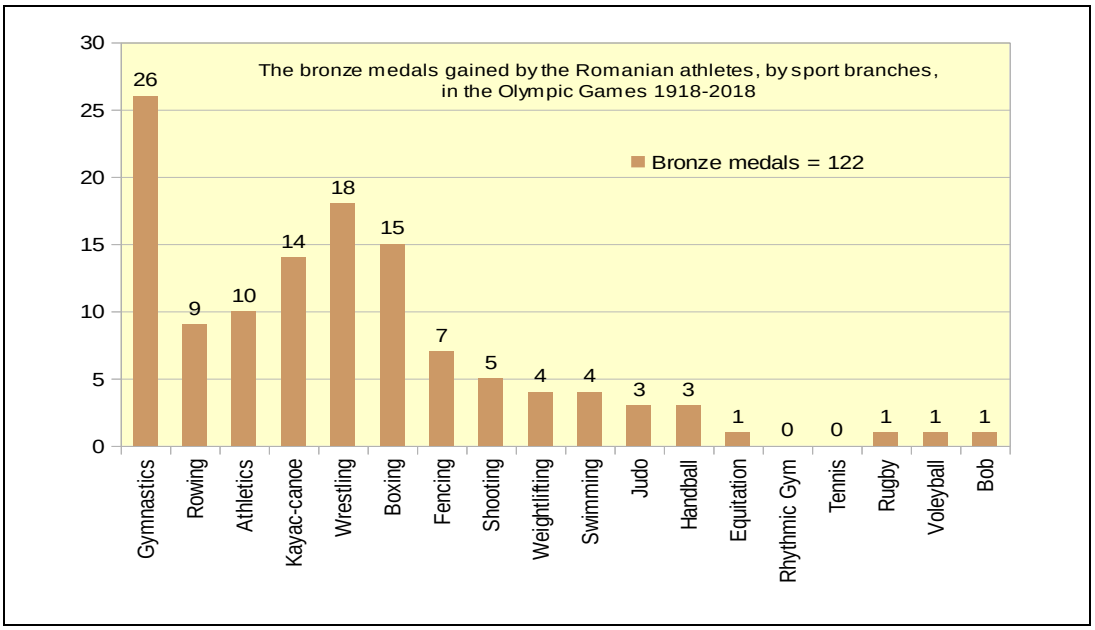

Fig. 7. Bronze medals won by Romanian athletes to the Olympic Games

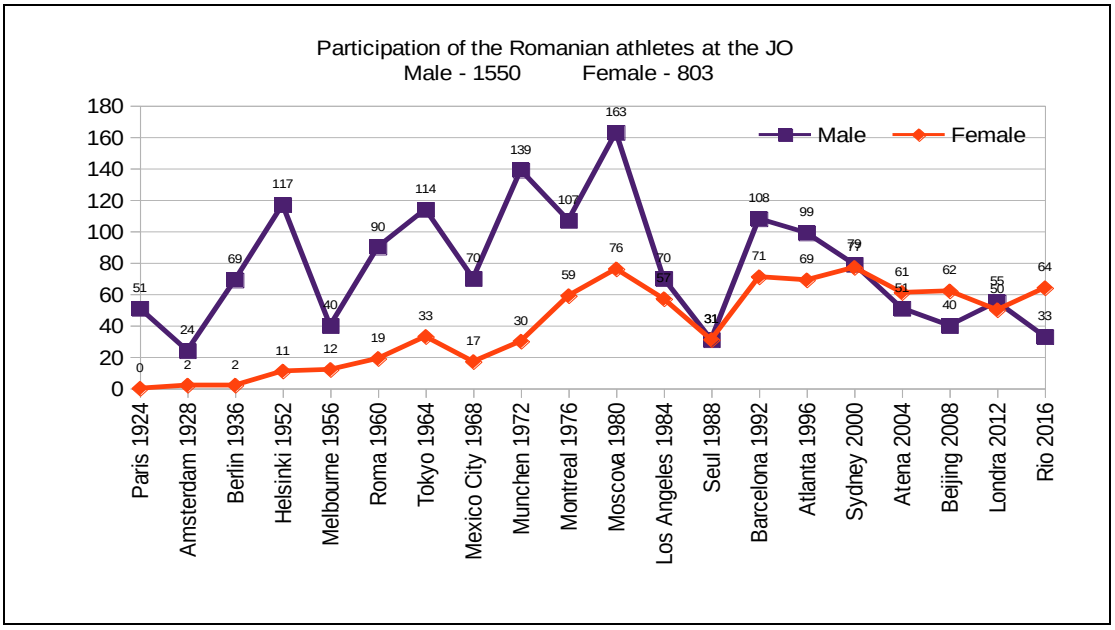

Fig. 8. Participation of the Romanian athletes to the Olympic Games

Over the past decade, there has been a dramatic decrease in the medals earned by Romanian athletes and the number of participants, many of them being motivated by the lower interest in practicing performance sports, poor training conditions, lower involvement of the institutions in the development of the Romanian sport at the level of children and junior, the promotion of practicing private sport since the 1990s.

Also, the budget allocated to the COR for the training and participation of athletes at the JO is extremely low, of 6.35 million euros in 2011, a budget 100 times smaller than England (Căliman, C. et all, (2011).

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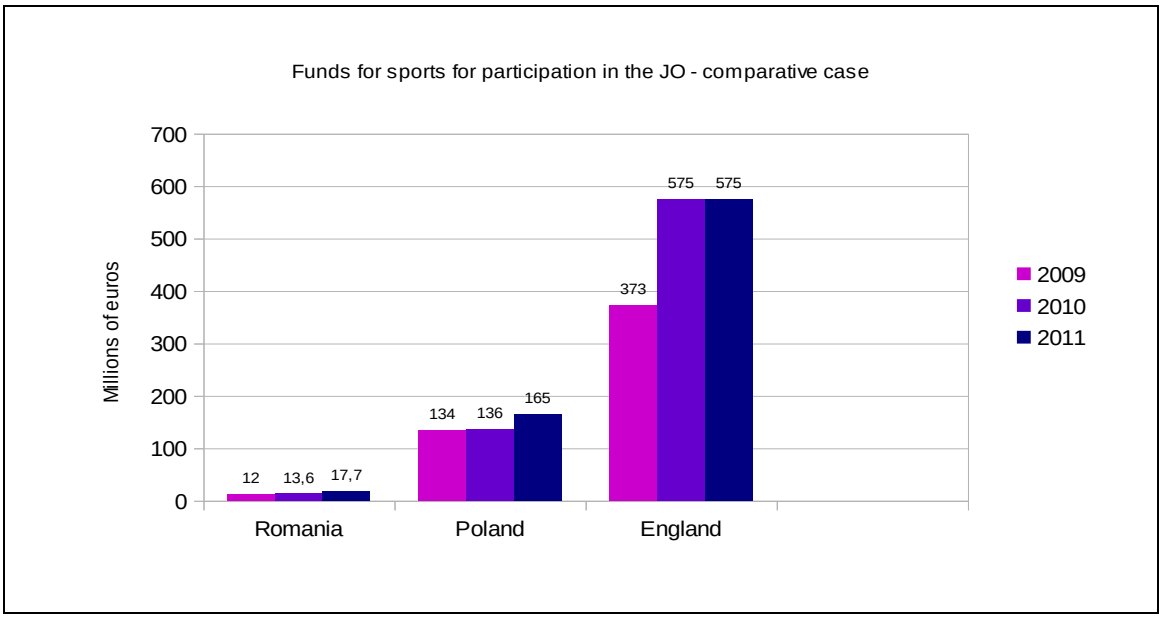

Fig. 9. Financing sport for participation at the Olympic Games – comparative case: Romania – Poland – England (Căliman, C. et all, 2011)

Conclusions

The sport became and it continues to be a major phenomenon for the international relations. By its increasing effects it is one of the most important cases from the past century to nowadays. The sportive competitions executed previously by a very small minority has influence almost all the world before the Olympic Games. The sport has been a decisive instrument in national and international politics.

The sport can be defined as a totality of activities realized in order to affect positively social and moral benefits as well as physical benefits. It is based on common training and is the mirror of mind and level of education of people. (Boyacıoğlu, Oğuz, 2016).

For Romania, the internationalization of sport has been and continues to be the most visible and real means of developing and modernizing the infrastructure in line with world requirements, developing relationships with international sports organizations, promoting the Romanian sport and its values in the world.

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