

SUMMARY

INTEGRATED TEACHING IN THE PROFESSIONAL TRAINING OF PHYSICAL EDUCATION AND SPORT DEPARTMENTS

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Annotation: *The integrated training, education and development are represented as optimal and productive factors, they allow to solve problems of the integral vocational training of the future specialists in physical culture and sports by the creation of the integrated courses providing organic amalgamation of the contents, methods and forms of the organization of an educational process with the view of increase of its efficiency.*

Key words: *integrated courses, integration, techniques, training, trainee, core disciplines, integrity.*

In General Pedagogics the concept *integrated teaching* means the process of integration (*Lat. integratio – combining, restoring*), which is the unification of the earlier separated system parts and elements on the basis of their interdependency and complementarity. Integration is the complex interdisciplinary concept, used in a whole number of the humanities: philosophy, sociology, psychology, pedagogics etc. The problems of integration are considered from different aspects in the papers of various scholars. In scientific papers of V.V. Kraevskiy, A.V. Petrovskiy, N.F. Talyzina the issues concerning integration of pedagogics with other sciences are examined.

By integration in pedagogical process the scientists understand one of the development process sides, connected with the unification of the earlier separated system parts. This process may take place within both already well-organised system and a new one. The essence of integration process – qualitative transformations within every element, included in a system. The principle of integration presupposes the correlation between all educational process components, all system elements, the connection between systems; it is fundamental in targeting elaboration, determination of education content, its forms and methods. Integrative approach signifies the implementation of integration principle in any component of pedagogical process. Integrative processes are qualitative transformation processes of either individual system elements or the whole system. Many researches in our domestic didactics and education theory rely on the above-stated propositions when elaborating concrete ways of educational process improvement.

The integration approach in Special (Corrective) Pedagogics is profoundly distinctive. In the scientific paper of N.M. Nazarova this concept is defined in the following way: "In the most general view concerning Special pedagogics the term integration means the process, the result and condition, under which disabled people and

other physically, intellectually, sensory etc. challenged members of the society are not socially separate or isolated, participating in all social life types and forms together and equally with the others. In the educational system/ at all its levels integration means actual, but not declared, possibility of minimally restricted alternative for children, teenagers, youth with developmental problems – teaching in either special educational establishment, or equally with others in the educational establishments of general type, for instance, in secondary school level establishments."

The most widely used term – integrated education. M.I. Nikitina, analysing integrated education, gives its definition, referring to "About special Education" Russian Federation bill: "By integrated education we understand "co-education of physically and (or) mentally challenged persons and persons without such handicaps, using special means, methods and with the assistance of pedagogues-authorities." N.N. Malofeev gives similar definition of integrated education: "Integrated teaching of abnormal children – teaching and training of children with various psychophysical developmental handicaps in general educational system establishments together with children of normal development". The term integrated teaching is used in the papers of leading scholars: N.N. Malofeev, M.I. Nikitina, N.D. Shmatko etc. Such terms as integrated teaching and training, integrated education are used along with this one. However, the authors define their content in a similar way. Apart from the works, which analyse integration and integrated teaching approaches and are written in the context of special education, there are some monographic researches that cover the issue, written in the context of general pedagogics and sociology of education.

The presence of quite a few unsolved problems is characteristic of present-day higher education. The problem of integrated teaching, which occur first of all in that subject-disciplinary training of students doesn't conform with required

teaching orientation towards ultimate results. As a rule, every educator teach his/her subject to students separately from other disciplines. However, such approach to a considerable degree impedes complex application of acquired knowledge, when solving those problems, which the future educator will face during his/her professional activity.

Thus, in present conditions future educator professional training requires certain revision of academic knowledge structure and elaboration of new education approach and teaching techniques ones. Integrated teaching, education and development present themselves as the most optimum and efficacious, they enable to solve the problems of integral professional training of future specialists in physical training and sports by means of integrated courses creation, and these courses will ensure the organic fusion of educational process content, methods and organisation forms with a view to enhancing its efficiency.

Educational process should be built on integrated approach under developmental education conditions. Such approach can be implemented on the basis of integration in education - by the conversion from traditional methods in education to pedagogical techniques, the basis of which comprises the educator and student cooperation organisation, on the one hand. And core disciplines – on the other.

Integrated teaching implementation includes 3 stages. At the first stage the material, the subjects of which can be studied only in the basic discipline framework, is analysed. The second stage deals with the material, which is beyond the scope of basic discipline and which includes the subjects that can be mastered in the study of other core disciplines subjects. The object of the third, the key one, stage – the formation of integral structure of professional activity of specialists in physical training and sport, the mastery of the whole wealth of professional knowledge and skills, the performing of certain educator's functions.

In addition to that several levels are clearly distinguished in the integration of education. The first and the highest level of integration – the level of interdisciplinary interaction integrity, terminating in the formation of a new discipline of integrative nature and of its own subject of study. At this level complex transition sciences act as the main source of integration and, correspondingly, integrative interaction transitional type is the basis of the considering level. It should be noted that at this level complete substantial and procedural integration in the framework of new integral subject formation is implemented and all didactic problems of integrated courses are solved.

The second integration of education level – the level of didactic synthesis. Didactic synthesis characterises not only academic studies substantial integration, but also defined by it procedural

synthesis, which proposes first of all the integration of academic studies forms.

The third education integration level – the level of interdisciplinary interaction, which correlates with the solution of such didactic problems as the actualisation of students' knowledge, its generalisation and systematisation. At the same time interdisciplinary interactions are considered as condition, principle, means of education and decisive factor of education content and also as specific system of educational process organisation, educator's and student's activity. General structural elements of education content, the transfer of which is implemented towards any academic disciplines, act as the major sources of integration at the interdisciplinary interaction level.

In professional training the idea of integration was advanced gradually: initially as the establishment of interdisciplinary interaction, subsequently as the integration of separate disciplines into complexes, and at present level as the necessity to create integrated courses, called upon to substantially increase the efficiency of educational and educating processes, I/e/ the interaction of educational subject and object. At the same time we should remember that the activities of educator are aimed not only at theoretical knowledge spreading among the students, at the development of motion qualities, at the formation of habits and skills, prescribed by the studied discipline programme. The ability to arouse students' need for studies, to organise educational activities, to develop their creative faculties and gifts is not less important.

The integrated course implementation in the Physical Education Faculty occurs on the basis of the Theory And Methodology Of Physical Education And Sport (TMPTS), which acts as the integrator of main disciplines: Pedagogical Physical Culture And Sport Improvement (PphCI), Athletics, The Psychology Of Physical Education, Physiology. Such a complex teaching enables to practically apply acquired theoretical knowledge of the processes under study, motive preparedness states and qualities. Moreover, all forms of studies should reflect knowledge methodology and creative thinking. The thorough study necessity of the discipline "Pedagogical Physical Culture And Sport Improvement" in the framework of the integrated course is determined by its particular condition as the practical basis of Physical Education And Sport theory and methodology.

Thus, the main task of the integrated course educators is to teach students to examine the essence of the problem under study. It can be fulfilled only by achieving the students' sound mastering of the core disciplines bases. The interaction strengthening between the disciplines mostly favour the formation of interdisciplinary interaction within all the academic, special subjects, and also medico-biological fields of

knowledge. In the content of each discipline two layers are formed: "the core", made of the knowledge, the source of which is the TMPTS discipline, and "the shell", where the knowledge fields of the sport-pedagogical disciplines (SPD), PPhSI and medico-biological (MBD) become interwoven with each other, being interrelated and mutually complementary. Such integration became possible owing to the notion about integral professional activities, which included the interaction of the knowledge from different fields, common tasks and goals, and also unitary system of educational means for set tasks and goals practical realisation.

Thus, the problems, principles and methods, realisable sense guidelines, connections, imposed technological conditions, which determine the transition of cognitive analysis to the stage of creative constructive process, realised in professional activities. Proposing the structure of integrated courses in the single academic discipline complex, we shall emphasise the main tasks and goals of this complex:

- to ensure profound theoretical comprehension of the integral professional activities bases of the specialist in physical education and sport;
- to form the ability to practically realise the basic theoretical propositions not by means of certain dogmata and postulates blind imitation, but by means of these propositions saturation with concrete specificity in the aspect of theory bases practical application;
- to improve professional training of the future specialists in physical education and sport owing to core disciplines integration;
- to facilitate necessary succession in terms of cooperation in the course of education, held under the following scheme: educator – student – educator;
- to show the basic content and courses methodology by means of the disciplines interaction organisation;
- to apply training techniques for the specialists in physical education and sport on the basis of the reflection of integral professional activity by means of integrated courses.

The integrated courses formation occurs, relying on quite a few basic principles. Among them we distinguish the following:

- generally pedagogical (reflects professional training content and structure, curricula and syllabi);
- didactic (aimed at the changes of educational process peculiarities);
- managerial (connected with the revelation of educational process management features in the study of intersubject disciplines of all cycles);

- methodological (specifies the methodology of studies conducting);
- technological (examines the activities as a means of professional activities and needs development).

The system of methods, applied while implementing integrated courses, involves such methods as monological, demonstrative, dialogical, heuristic, research, algorithmic, programming. The integrated courses programme is realised in the form of lectures, seminars, laboratory, practical, review-methodological studies with students and also in the form of the elaboration of teaching, supervising programmes and tests in various subjects of academic disciplines. At the same time, it is essentially important to ensure organic interaction of these disciplines, when profoundly comprehending the specialist integral professional activities bases, and, when being able to practically realise the basic theoretical propositions, not by imitating them, but by saturating with concrete specificity. Conducting the supervision, we use test and problem tasks in the aspect of teaching students integration, creative tasks, business pedagogical games, teaching and controlling programmes, brief code synopsis, used educational materials comprehension. As it is known, in the educational process structure two sides cooperate – educator and student. The educator performs the function of the training: teaches, explains educational material, heads the cognitive activities and the students' physical development. The role of the trainee (the learner, who masters what is taught by the educator) is assigned to students.

Nevertheless, the educator may organise the students' work in such a way that they become its active participants. During educational process, communicating with each other, they can teach the others. By such an active and productive form of communication students' personal qualities, stipulating the comprehension and realisation by themselves of their own activities, are in the best way displayed and realised straight in the life practice.

Thus, the educational process structure also includes mutual teaching. It becomes a constituent part an interim link between teaching, conducted by the educator, and self-learning, where the problems of knowledge acquisition, physical development and improvement are solved by the students themselves in the role of the training.

It follows from the above, that for the permanent display of integrated approach in the studies it is necessary to make students the active participants of the educational process, to apply developmental tasks, active educational methods, the method of specific situations, brainstorming, simulation games etc. At the same time, it is important to remember that, as it was already mentioned, high level of integration, fusion, content, methods, means and ways of activities is the mandatory indication of the integrated type

studies. The work in micro groups (4-5 persons) of the replaceable composition, which promotes students' approbation in the role of the educator, may be one of the practical ways of integrated teaching realisation. The student teaches his group mates, performing simultaneously the role of both the training and the trainee. In addition, the ability to diagnose the level of knowledge and skills and to implement their further transfer to his/her trainees appears. At the end of the class the conducting will sum up the having been performed task, will give individual assessment and methodological recommendations; the performed work is analysed.

It is also recommended, that at every class the cooperation between the educator and the trainee is to be implemented according to the pedagogical techniques, consisting of the problem situation system. Problem situation includes four consecutive strokes: introduction to a problem, the work in creative groups, general discussion, a new problem situation. Everything must be studied in the set of technological issues at the integrated courses. It is also of no small importance, that integrated teaching to a considerable degree aimed at educational techniques, namely: at technological academic thinking development; acquisition of abilities to organise, plan, standardise and and algorithmise the educational and independent activities; educational and teaching techniques mastery. Thus, the fundamental place in the physical education departments students professional training system should be assigned to educational and teaching techniques, which present themselves as the revelation of coordinating, motive, mental, functional, qualitative, intellectual and other students' abilities and possible means of education and teaching with the object of their taking into consideration and using for motive and pedagogical skills formation. Summing up, it is necessary to admit the following: integrated construction of the educational process in comparison with the subject one involves considerably more technological abilities in the conditions of approximation and fusion of different qualities knowledge, ways of activities and thinking modes.

In the integrated studies the difference between structural elements, inherent exceptionally in physical education and sport theory and methodology, athletics or pedagogical physical culture and sport improvement are less appreciable. At every class the problems of these disciplines are simultaneously solved. At the same time, the theoretical knowledge mastery, practical skills formation, the consolidation of knowledge of physical education and sport theory and methodology in the course of their application at sport-pedagogical disciplines classes are in progress.

Such concentration of information in a single course doesn't depersonalise each of the

studied disciplines, but contrary, it accurately orient them towards physical education didactic problems elaboration; the ability to form the students' integral conception about their professional activities appears.

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Instruirea integrată în formarea profesională a studenţilor din învăţământul superior de educaţie fizică

Adnotare. Instruirea integrată, educaţia şi dezvoltarea ei sunt prezentate ca factorii cei mai eficienţi, care permit a rezolva problemele formării viitorilor specialişti în domeniul educaţiei fizice şi ale procesului de antrenament pentru a asigura crearea unui conţinut organic integrat, precum şi metode şi forme de organizare a procesului de învăţământ, în vederea sporirii eficienţei acestuia.

Cuvinte cheie: cursuri integrate, integritate, tehnologie, studiere, discipline de profil.

L'enseignement integre dans la formation professionnelle des etudiants de l'enseignement superieur d'education physique

Annotation. L'enseignement intégré, l'éducation et son développement sont présentés comme les facteurs les plus efficaces, qui permettent de résoudre les problèmes de la formation des futurs spécialistes dans le domaine de l'éducation physique et du processus de l'entraînement pour assurer la création d'un contenu organiquement intégré, ainsi que des méthodes et des formes d'organisation du processus d'enseignement, en vue d'augmenter son efficacité.

Les mots clés: les cours intégrés, l'intégration, la technologie, l'étude, les matières de profil, l'intégrité.

DETERMINATION OF EMOTIONAL INTELLIGENCE TO STUDENTS WITH THE TEST FRIEDMANN

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Abstract: *Human evolution is related to how we know and manage our emotions. Emotions are the image of the human soul, but to fulfill their role, they should be allowed to express themselves as they are, positive or negative.*

Keywords: *emotions, feelings, emotional intelligence, survey.*

Introduction

Human evolution is related to how we know and manage our emotions. Emotions are the image of the human soul, but to fulfill their role, they should be allowed to express themselves as they are, positive or negative. People can not deny personal emotions, even if they want it. While many individuals claim that they can overcome their emotions, in fact, even if they are not externalized, the emotions are inside. Experts believe that the lack of emotion externalization can have harmful effects, creating real wounds of soul and body, leaving indelible marks that eventually turns into physical and mental pain.

Among the most dedicated professionals that study the mental suffering caused by emotions, Dr. Antonio R. Damasio from the University of Iowa (1986), his wife, Hanna Damasio a neurologist and other psycho-cardiologists who after hundreds of studies have reached the conclusion that emotions and feelings can affect health and human behavior.

Emotions are often identified with the feelings of: love, hate, desire, joy, sadness, anger, fear, surprise, disgust, shame and more.

But, if you think wishes are part of the elementary group of affective states of short duration, feelings are complex emotions that systemize aspirations, interests, attitudes etc.

A specialized statistical analysis concluded that 65% of men are led by logic and 65% of women are led by their emotions.

Two out of the three men are born with a more developed left cerebral hemisphere (in charge of reason). With education, they are taught to be strong, not to externalize their feelings and have logic as law, while two out of three women are born with a more developed right hemisphere (dealing with emotions) and also through education, they are taught to externalize their emotions, and to be more communicative. This

explains why, at the same level of training, the girls are better in some areas than boys, why some struggle with small jobs, while others quickly climb the steps to success, why there are imbeciles who just can't have enough money, while a lot of intelligent individuals are barely going through life with their salary. The answer to these situations is found by Daniel Goleman who thinks it is related to emotional intelligence (EQ). Even if reason and logic are indispensable in the evolution of humankind emotions can beat logic at any time of the day.

Emotional Intelligence (EQ) is the personal ability to properly identify and manage emotions in relation with personal goals (career, family, education, etc.). Its purpose is to achieve goals with minimal inter and intra-personal conflicts.

According to the latest studies, emotional intelligence is responsible for the success or failure of people in life, often having a higher value than a diploma or a formidable CV as employers focus on the degree of involvement and communication of the employees, on self-awareness and self-control, intuition and creativity, on the social and group conscience and on the interpersonal relationship management, realizing the impact of these qualities in achieving objectives.

The purpose of this paper is to inform and highlight the importance of emotions and feelings in the daily life of individuals in the XXI century. Good information and especially good emotion management can positively affect the development of personal events, health and life. The research methods that have been used are: bibliographic study material, teacher observation, survey-type questionnaire, statistical and mathematical analysis and the graphical and tabular method.

The scientific approach was conducted between January 15, 2011 and March 15, 2011, when an investigation was conducted with the application of questionnaires (Friedmann test) to

determine the level of emotional intelligence (EQ) of 238 students from:

- Faculty of Physical Education and Sport - **FEFS** - (51-20 girls and 31 boys);
- Faculty of Economics and Administrative Sciences - **FSEA** - (44-26 girls and 18 boys);
- Faculty of Food Science Industry - **FSIA** - (50 - 20 girls and 30 boys);
- Faculty of Letters - **FL** - (42-6 girls and 36 boys);

- Faculty of Arts - **FA** - (20 - 15 girls and 5 boys);
- Faculty of Medicine – **FM** – (31 – 16 girls and 15 boys) at the University "Dunărea de Jos". So, from a total of 238 subjects, 103 are girls and 135 boys.

Friedmann's scale of emotional maturity is a questionnaire with 25 questions to be answered with "Yes" or "No", each answer being associated with a number of points – table 1.

Table 1 – Friedmann Scale

No.	Item	Pct.	Pct.
		YES	NO
1.	<i>I'm easily discouraged.</i>	11	21
2.	<i>I like to attract attention with my clothing and my manners.</i>	7	20
3.	<i>I'm calm and cold-blooded when it comes to dangerous situations.</i>	26	7
4.	<i>I'm rigid and sensible when I have to support my opinion in front of a strong opposition.</i>	12	30
5.	<i>I like to be alone.</i>	40	8
6.	<i>I sometimes say things that i later regret.</i>	10	20
7.	<i>The relation with my family is peaceful and harmonious.</i>	31	9
8.	<i>I'm always affected by other peoples' words and actions.</i>	11	20
9.	<i>I'm always ready to admit a mistake when I make it.</i>	26	10
10.	<i>I'm blaming others for my mistakes and errors.</i>	7	26
11.	<i>I feel I'm the most important in my family.</i>	6	25
12.	<i>I always think I've never been lucky in my life.</i>	11	29
13.	<i>I always spend more than I have.</i>	13	26
14.	<i>I feel inferior or I have a lack of trust in myself that i try to hide.</i>	7	25
15.	<i>I cry when I watch a play at the theater or when I watch a touching movie.</i>	5	30
16.	<i>When I am upset I tend to act strangely and to be bad to the people around me.</i>	11	28
17.	<i>I like to impress people with my superiority.</i>	7	25
18.	<i>I like to dominate.</i>	12	30
19.	<i>I always like to earn the sympathy of others.</i>	7	24
20.	<i>I'm mad when I'm in trouble or have made some mistakes.</i>	5	20
21.	<i>I'm led by anger, I am against a lot of people.</i>	7	21
22.	<i>I get really jealous when I see someone successful.</i>	11	21
23.	<i>I pay close attention to other peoples' feelings.</i>	22	7
24.	<i>I always get angry and I have fights with people.</i>	10	20
25.	<i>I sometimes think of committing suicide.</i>	5	20

The final result was determined from the summation of accumulated points followed by dividing the corresponding responses to 25.

The evaluation was done by interpreting the results:

- 0-10 points - emotional infantilism;
- 18-20 points - average level of maturity;
- 20-21 points - appropriate level of maturity;
- 22-24 points - good maturity;

- Over 25 points - perfectly matured emotionally.

After processing the results obtained from solving the test of emotional intelligence (EQ), according to Friedmann's Scale, it is concluded that the boys have a better average emotional intelligence than girls – table 2.

Table 2

TABLE WITH THE AVERAGE EMOTIONAL INTELLIGENCE						
	POINTS	GIRLS	POINTS	BOYS	POINTS	SUM
<i>FACULTY</i>	Σ	<i>x</i>	Σ	<i>x</i>	Σ	<i>x</i>
FEFS	414,4	20,72	652,0	21,03	1066,4	20,91
FSEA	537,6	20,67	380,8	21,15	918,4	20,87
FSIA	439,6	21,98	650	21,66	1089,6	21,79
FL	127,2	21,20	776,4	21,56	903,6	21,51
FA	312,4	20,82	118	23,6	430,4	21,52
FM	340,0	21,25	322,0	21,46	622	20,06
<i>x</i>	21,10		21,74		21,11	
$\pm m$	B = + 64					

Thus, if we follow the performance of students enrolled in the study we consider that the *FSIA* female students present a better average EQ than the male students of the same university and *FA*

students have superior EQ's to all the subjects that have been tested, providing a "good level of maturity" for this age group - table 3.

Table 3

FACULTY	x (girls)	x (boys)	$x_b(t) - x_f(t)$
FEFS	20,72	21,03	B = + 0,31
FSEA	20,67	21,15	B = + 0,48
FSIA	21,98	21,66	F = + 0,32
FL	21,20	21,56	B = + 0,36
FA	20,82	23,60	B = + 2,78
FM	21,25	21,46	B = + 0,21

It was also revealed that the *FSIA* students have the best average emotional quotient (21.79) followed by *FL* and *FA*, with very close values

(21.52 and 21.51) *FEFS* (21, 91), *SEA* (20.87) and *FM* (20.06) - in fig. 1.

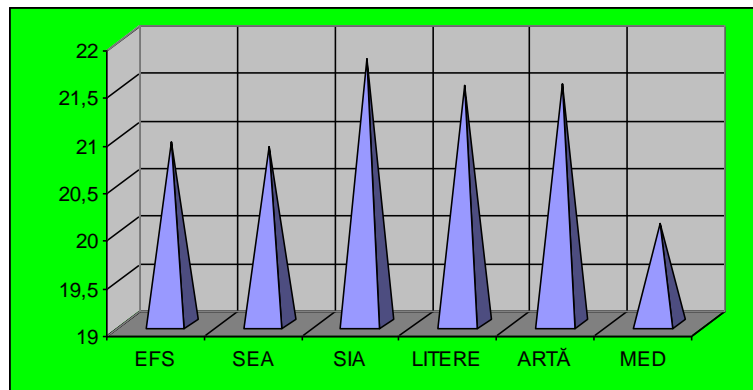


Fig.1 - The average emotional intelligence on faculty

After the analysis and interpretation of the collected data after the completion of the emotional intelligence tests there were the following conclusions:

After the bibliographic material was studied there was found lack of study to prove the value of emotional intelligence quotient of students in our country;

The results have shown that male students have a higher average EQ than the average of female students.

Emotional or cognitive intelligence is not a homogeneous concept, each individual being able

to stand out as an intelligence quotient in certain situations and in certain areas;

With training, emotional intelligence can be controlled so that individuals are able to successfully withstand and manage emotions;

In the view of the experts, in the present IQ is beginning to lose importance while EQ is about to become the new key to success, the real values being: intuition, gentleness, sympathy, communication etc.

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Determinarea inteligenței emoționale la studenți prin aplicarea testului Friedmann

Rezumat: Evoluția umană este legată de modul în care își cunosc și își gestionează emoțiile. Emoțiile reprezintă imaginea sufletului uman, dar pentru a-și exercita rolul, acestea trebuie lăsate să se exprime așa cum sunt ele, pozitive sau negative.

Cuvinte cheie: dezvoltare, densitate motrică, densitate pedagogică, liceu.

STUDY REGARDING THE STUDENTS' BELIEF THAT THEIR CHOSEN PROFESSIONAL FORMATION IS THE RIGHT ONE FOR THEM

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Abstract: Objectives: This study aimed to emphasize the current physical education and sports students' (Faculty of Movement, Sports and Health Science, Bacău) belief that their choice of professional formation was the right one for them.

Material and methods: Trying to create the best possible formative process, we conducted this study using the following research methods: the observation, the study of the specialized literature, the tests, the statistical-mathematical method, and the chart method. In order for us to know how much the physical education and sports students believe in their educational process, we applied the *self-knowledge test* "Do you believe in the work you do", presented by Nicolae Radu in 2007, pages 160-161. The test emphasizes our students' belief and conviction that their chosen professional formative activity is the best for them. This research comprised 32 students.

The recorded and analyzed **results** showed that 14 students have individual values over the average value of 6.16 points, representing 43.75%, whereas 53.13%, representing 17 persons, have individual values higher than half of the 11 maximum points. Only one person, meaning 3.12%, recorded a total of 11 points, being characterized by stability at the workplace, balance, respect towards work, loyalty. 27 subjects, meaning 84.37%, recorded values **between 12 and 24 points** and are characterized by certain instability, and a tendency to often change jobs.

The **conclusions** show that the hypothesis stating that our students have chosen their study program, in the field of physical education and sports, because they thought it was the best for them, was not confirmed. The highest percentage of the students (83.33%) is represented by the group characterized by certain instability and by a tendency to change their jobs, showing insecurity and indecision.

Keywords: choice, belief, formation, profession.

Introduction

Belief, as a notion that represents the pillar ensuring victory in an activity, is explained (by Paul Popescu Neveanu, 1978, page 148) as an "orientation, action, idea having a subjective certitude", or a "subjective option during choice or value conflict situations" that allows "associating an idea with a need", which "comes in building the personality orientation system". Approaching such a study, regarding the possibility of developing one's professional personality based on knowledge and self-knowledge, constitutes an objective reflection on the possibilities each of us has. The objective arguments on knowing the perspectives through tests are not only a necessary stage, but they also determine the complexity of the behavioral evolution that is the basis of professional development.

The learning mediated by the initial knowledge of the students, represents the essential condition for the effectiveness of the formative act. "The teachers must preoccupy themselves first and foremost with a good knowledge of the students" (Cojocariu V, 2010, page 98), because professional top performance is the highest achievement for the individuals in their chosen profession, being about conquering different restrictions, and difficulties.

Professional formation is influenced by the trust and belief in your own abilities. "Man, in his whole ensemble of qualities, born, learned, combined, and compensated", is the author of his own personality, his own work (M. Epuran, 2008, page 419), and his own existential state.

Material and method

The analysis and understanding of the way of knowing whether the students believe that their chosen professional training matches their wishes, represents the *main objective* of this study. Here we set ourselves to verify the *hypothesis* stating that our students have chosen the physical education and sports study program because they considered it as being the best program for them. As *research methods*, we used: the observation,

the study of the specialized literature, the tests, the statistical-mathematical method, and the chart method.

Starting from the fact that "the human body and psycho-motor skills represent the pillars of life for every one of us" (I. Neacșu, 2010, page 59), and that it is also the basis for forming a professional behavior, we considered as necessary the assessment of our students through the self-knowledge test "*Do you believe in the work you do*", (Nicolae Radu, 2007, pages 160-161). Through this test we could assess whether our students chose this professional formation program believing it was the best for them. The test comprises 11 assertions, each being assessed by points for the 4 possible answers. For the answer "yes", one point is given, for "sometimes" two points, for "it depends/sort of" three points, and for "no" four points. The results, represented by the sum of all points given for the four answer variants, can be between a minimum of 11 points, and a maximum of 44 points. We added the points for every answer, the sum comprised between certain values having a certain meaning, envisaging what the students "recommend" for the improvement of the national education system.

Our experiment comprised 32 *subjects* (undergraduate and graduate students). The testing was done at the beginning of *February 2011*, within the Faculty of Movement, Sports and Health Sciences. After the completion of the tests, the recorded results were entabulated, analyzed, and discussed with the subjects.

Results

The *age* of the subjects, presented in Table 1 and Chart 1, is between 19 and 50, with an average value of 24.56 years old, and with an average deviation of 8.74. You can easily observe that with the chosen people we had no intention of standardizing the age group.

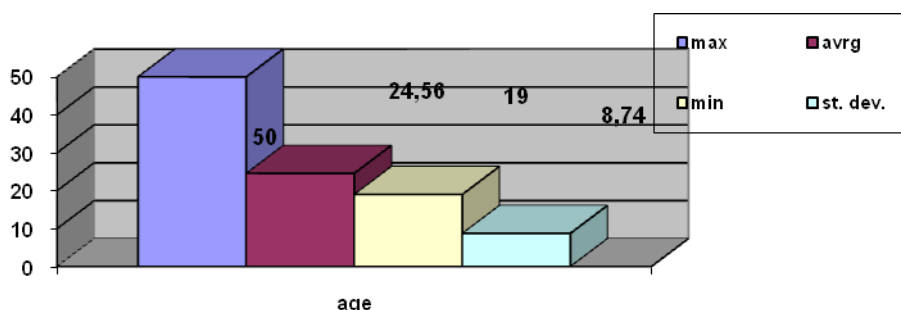


Chart 1

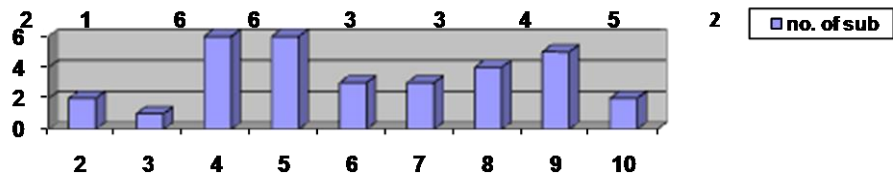
The answer "yes", given by 32 subjects, can be observed in Table 1 and Chart 2. The extreme values are between 10 and 2 points, with an average of 6.16 points, and a standard deviation of 2.32. We can easily observe that, out of the 32

subjects, two have 2 points each, one has 3 points, six have 4 points each, other three have 7 points each, four have 8 points each, five have 9 points each, and two of them have 10 points each. As we can see, 14 students have individual values over

the average value of 6.16 points, representing 43,75%, whereas 53.13%, representing 17 persons,

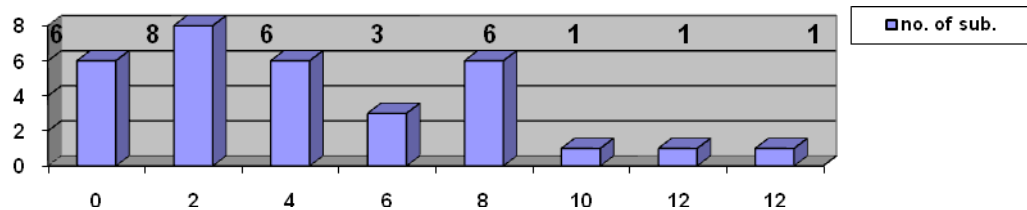
have individual values higher than half of the 11 maximum points.

Chart 2



The answer "**sometimes**", given by the 32 subjects, and marked with 2 points for every assertion, is presented in Table 1 and Chart 3. The extreme values are between 0 and 14 points, with an average of 4.38 points, and a standard deviation of 3.77. We can easily observe that, out of the 32 subjects, six have 0 points, eight have 2 points each, six have 4 points each, three have 6 points each, six have 8 points each, one has 10 points, one has 12 points, and one has 14 points.

Chart 3



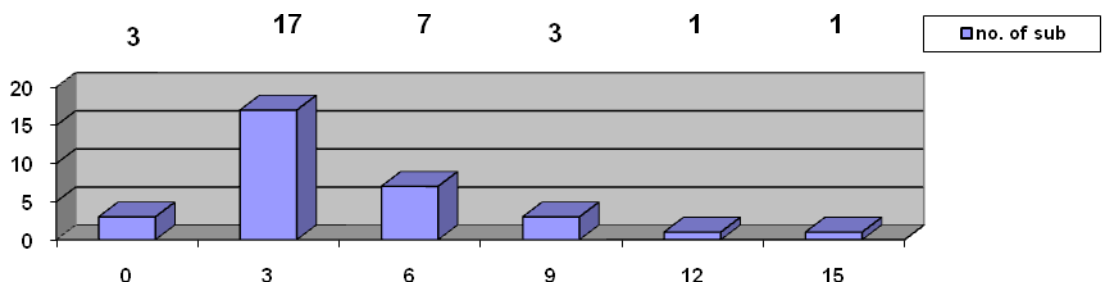
As we can see, 12 students have individual values over the average value of 4.38 points, representing 37.5%, whereas 20 people, representing 62.5%, are below the average percentile. Only two students (6.25% of the total number of subjects) have an individual value higher than half of the 22 maximum points.

The answer "**it depends**", given by the 32 subjects, and marked with 3 points for every assertion, is presented in Table 1 and Chart 4. The extreme values are between 0 and 15 points, with

an average of 4.53 points, and a standard deviation of 3.37. We can easily observe that, out of the 32 subjects, three have 0 points, seventeen have 3 points each, seven have 6 points each, three have 9 points each, one has 12 points, and one has 15 points.

As you can see, 12 students have individual values over the average value of 4.53 points, representing 37.5%, whereas no one has individual values higher than half of the 33 maximum points.

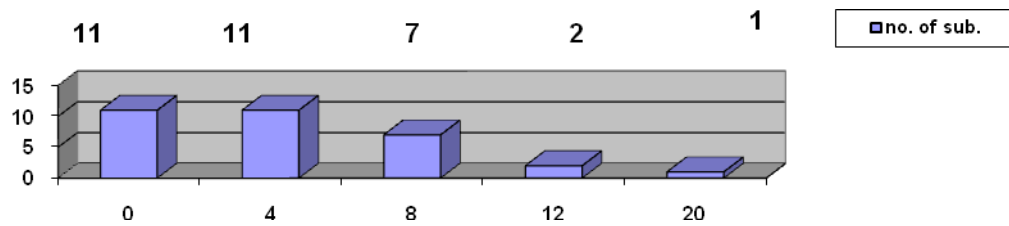
Chart 4



The values for the answer "**no**", given by the 32 subjects, and marked with 4 points for every assertion, are also presented in Table 1, and in Chart 5. The extreme values are between 0 and 20 points, with an average of 5.50 points, and a standard deviation of 4.63. We can easily observe that, out of the 32 subjects, eleven have 0 points, other eleven have 4 points each, seven have 8

points each, two have 12 points each, and one has 20 points. We can see that 10 students have individual values over the average value of 4.50 points, representing 37.5%, whereas 22 people, representing 68.75%, are below the average percentile. All subjects have individual values below half of the maximum value of 44 points.

Chart 5



Discussions

"The educator/teacher has, as a fundamental mission, to develop and train the personality, as a continuous relation between present, the experience of the past, and the possibilities of the future" (I. Neacșu, 2010, page 59). The strength of the values that are part of one individual's personality, representing a stage in behavior development, depends on the social environment, and on experiencing the specific life events.

In the group of people who recorded a **total of 11 points**, group characterized by stability in their jobs, respect for work, and loyalty, only one person can be found, representing 3.12%. That particular person is one of the students who are more interested, an aspect emphasized by the exam results, and more preoccupied with acquiring as many information as possible.

In the group of people recording results **between 12 and 24 points**, characterized by certain instability, and a tendency to change their jobs often, we found 27 subjects, meaning 84.37%. We can find also in this group, students with good results in their exams.

Out of the 32 subjects, 4 are in the **over 25 points group**. These are students who are not interested, mainly, in the professional formation offered by the educational program, but more in acquiring a qualification, or a diploma, thinking that in the future they will get another job that will not necessarily be in the same field with their education.

These percentages express the order given by the inter-individual and group differences, representing landmarks for identifying and assessing the human personality. It is easy to explain the reason why this study was made. The training of the human being for social and professional integration is based on that education method envisaging the formation of a type of personality that is "under the demands of present and future conditions of society" (I. Nicola, 1996, page 28). After the initial assessment of the students, the next step of the university teachers is to "design and develop activities that will change the traditional approach, changing the classroom into a learning laboratory" (Cojocariu V, 2010,

pag. 98), in a knowledge and self-knowledge laboratory.

Self-knowledge, at the right time, as close as possible to the beginning of the professional formation, is likely to contribute to the removal of "the fear to make a mistake, adapting difficulties, in conditions of repeated changes", and it could ensure the belief that the activity we are doing is what we want, what we can really do.

Conclusions:

The results of the study and the division of the students in one group or another show that the way the students think is different regarding the belief in what they are doing. After analyzing the data above, we can deduce that the hypothesis stating that our students have chosen the physical education and sports educational program because they thought it was the best for them, was not confirmed, the highest percentage of the students, 83.33%, being represented by the group with people characterized by a certain instability and a tendency to change their jobs. This shows insecurity and indecision, aspects that are maintained by the current stage of our society. The current professional formation is hard, because the students are not convinced they will get a good job and have a good career by following this program.

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Table 1. Results for the test "Do you believe in the work you do"

No.	Initials	Age	Answers				
			Yes	Sometimes	It depends	No	Total
27	DD	20	10	0	0	4	14
13	MT	44	7	4	0	8	19
7	GA	22	5	8	0	4	17
24	MV	21	9	0	3	4	16
25	RN	22	10	0	3	4	17
9	HA	22	8	0	3	8	19
18	PRE	44	9	2	3	0	11
1	AD	20	9	2	3	0	14
31	ML	37	9	2	3	0	14
16	CM	20	8	2	3	4	15
3	LM	21	8	2	3	4	16
32	PM	20	8	2	3	4	17
12	CA	20	7	2	3	8	20
28	GMD	36	9	4	3	0	16
30	SP	23	6	8	3	0	17
17	FM	20	5	8	3	4	20
15	US	19	4	8	3	8	23
20	RB	20	4	8	3	8	23
22	GM	22	4	10	3	4	21
5	MI	23	3	14	3	0	20
21	CG	20	5	2	6	12	25
2	UD	50	7	4	6	0	17
4	BV	40	5	4	6	8	23
29	IS	20	4	4	6	12	26
14	CI	20	6	6	6	0	18
6	FS	20	5	6	6	4	21
23	ŞA	20	5	8	6	0	19
19	MR	19	6	0	9	8	23
11	AIA	20	4	6	9	4	23
26	O M	21	2	12	9	0	33
10	AA	20	2	0	12	20	34
8	DC	20	4	4	15	0	23
Average		24.56	6.16	4.38	4.53	4.50	19.81
Studev		8.74	2.32	3.77	3.37	4.63	5.06
Max		50	10	14	15	20	34
Min		19	2	0	0	0	11

Studiu privind convingerea că formarea profesională urmată de studenți este cea dorită

Rezumat: Obiective: Realizarea acestui studiu a urmărit să scoată în evidență convingerea că actualii studenți, din domeniul educației fizice și sportului (Facultatea de Științe ale Mișcării Sportului și Sănătății din Bacău) cred că au ales corect direcția de formare profesională.

Material și metode: Căutând să realizăm un proces formativ cât mai adecvat, am întreprins un studiu în care am folosit ca metode de cercetare: observația, studiul bibliografic, testul, metoda statistico-matematică și metoda grafică. Pentru a cunoaște în ce măsură studenții cuprinși în programele de studiu specifice domeniului educației fizice și sportului cred în procesul lor de pregătire am purces la aplicarea testului de

autocunoaștere „Credeți în ceea ce lucrați”, prezentat de Nicolae Radu în 2007, pag. 160-161. Testul scoate în evidență credința și convingerea studenților noștri că activitatea de formare profesională este cea dorită de ei. La cercetare au participat 32 studenți.

Rezultatele înregistrate și prelucrate au evidențiat că 14 studenți se încadrează cu valorile individuale peste valoarea mediei de 6,16 puncte, ceea ce reprezintă 43,75%, iar 53,13%, reprezentând 17 persoane, care se situează ca punctaje individuale peste jumătatea celor 11 puncte maxime. O singură persoană, a dică 3,12, a înregistrat un total de 11 puncte și se caracterizează prin stabilitate la locul de muncă, echilibru, respect față de muncă, loialitate. 27 de subiecți, adică 84,37 %, au realizat un punctaj

cuprins între 12 și 24 puncte și se caracterizează prin ușoară instabilitate și prin tentația de a schimba un loc de muncă.

Concluziile arată că ipoteza conform căreia studenții noștri și-au ales programul de studiu, în domeniul educației fizice și sportului pentru că îl cred cel mai potrivit pentru ei, a fost infirmată. Cel mai mare procent al studenților 83,33% îl reprezintă grupa care se caracterizează prin prin ușoară instabilitate și prin tentația de a schimba un loc de muncă, deci arată nesiguranță și nehotărâre.

Cuvinte cheie: alegere, credință, formare, profesie.

Étude concernant le degré de conviction des étudiants sur la justesse de leur choix de formation professionnelle

Résumé: Objectifs: Cette étude vise à mettre en évidence le degré de conviction des étudiants actuellement en formation en éducation physique et sport à la Faculté des Sciences du Mouvement, du Sport et de la Santé de Bacău qu'ils avaient correctement choisi leur direction de formation professionnelle.

Matériel et méthodes: En vue de mettre en œuvre un processus de formation adéquat aux attentes des étudiants, nous avons mené une étude utilisant comme méthodes de recherche : l'observation, l'étude bibliographique, le test, la méthode statistique et la méthode graphique. Pour connaître le degré dans lequel les étudiants qui suivent les

formations spécifiques au domaine de l'éducation physique et du sport ont confiance dans leur processus de formation, nous leur avons appliqué sur un lot de 32 étudiants le test d'auto-connaissance « Croyez-vous dans votre travail ? », présenté par Nicolae Radu en 2007, pages 160 – 161. Le test mesure la conviction des étudiants que la formation choisie correspond à leur désir.

Les résultats du traitement des données enregistrées ont mis en évidence que 14 étudiants s'encadrent avec leurs valeurs individuelles au-delà de la moyenne de 6,16 points, ce qui représente 43,75% du lot, tandis que 53,13%, c'est-à-dire 17 personnes, ont des valeurs individuelles les situant au-delà de la moitié du maximum de 11 points. Un seul sujet (c'est-à-dire 3,12%) a enregistré un total de 11 points et se caractérise par stabilité, équilibre, loyauté et respect envers le travail. 27 sujets (84,375%) ont obtenu entre 12 et 24 points et se caractérisent par une faible instabilité et par une tendance à changer d'emploi.

Les conclusions montrent que l'hypothèse que nos étudiants ont choisi leur formation en éducation physique et sport en la considérant la plus appropriée à leur désir a été infirmée. Le plus grand pourcentage des étudiants – 83,33% – représente le groupe se caractérisant par une faible instabilité et une tendance à changer d'emploi, ce qui montre une manque de sûreté et de l'indécision.

Mots clés: choix, conviction, formation, profession.

FEED-BACK IN DIDACTIC COMMUNICATION

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Summary: By its instrumentality feature, didactic communication encompasses the phenomenon of back-action (recurrent actions propagated inversely from effects to causes). Out of the forms of back-action also present in didactic communication may be focused on: feed-back. In order to be efficient, communication should function as a self-regulatory circular system. The central element of this self-regulation is represented by feed-back, allowing the recipient to express his reactions. An accurate communication presupposes role flexibility, interaction, not mere transmission. Any communication should be bilateral. Broadly speaking, feed-back is the modality through which the result reverts back to causality, while the modality through which the anticipation of result reverts back to causality is called feed-forward.

Key words: didactic communication, feedback, assessment.

Prolegomena

Education as a high priority area of the social life, as a lifelong enterprise on which depends the formation of the most important nation factor-the individual trained by studies, labour and specialists-cannot and should not afford failure. The competent effective management in education, both at the system level, and at the level of the academic institution requires a scientific foundation. At the basis of this foundation lies *the science of education management*. Teacher training is systematic and organised, being carried out in higher learning on the basis of plans, syllabi and curricula, according to D'Hainaut [1977]. The training system of the teaching staff is determined by the objectives lying in front of the school, the level of increase of the material and spiritual civilisation of the entire population, which means the so-called "social command". Through this system one takes into account the progress of science and technology, the achievements in the field of education, the exaggerated development of society, the present needs and the perspectives of training the future specialists in various fields of activity. The introduction of notions, and novel working techniques, require the elaboration of an appropriate conception of teacher training in concord with such requirements. The evolution that should be seen in higher learning regarding teacher formation and improvement depends to a great extent on the training quality of future generations of specialists in all fields and particularly on the raise in quality in education. Research on communication have come to define several dimensions of all the social processes; thus, education in general, and particularly school as a subsystem of the social system are currently undergoing a repositioning of the entire network of interactive aspects within them.

Theoretical background

Feedback is an extremely important component of communication. Gamble (1983) defines feedback as "all the verbal and non-verbal messages that an individual conveys consciously or unconsciously as a response to someone else's communication". In the action of assessing a certain activity, which the teacher undertakes towards his/ her pupil, feedback is paramount as it determines whether their relationship will evolve or not. Longenecker states that feedback is necessary to determine the measure in which the message was understood, believed and accepted. If the teacher resorts to the less evident side in the so-called traditional assessment, i.e., formative action, it is obvious that such an aspect cannot possibly be ignored. Usually in the case of an assessment resulting in a low grade, unlike the expectancies of the student, the best case scenario is that the message sent by the teacher is "understood" by the student; a longer path is covered if the message has to be believed and particularly accepted by the student; failure to do

so leads to the student feeling treated unfairly and his/her trust in the teacher will diminish visibly. When the teacher provides a student with feedback for a certain activity, other aspects have to be taken into account; in order to do so, the essential determinants of feedback in the specialised literature, should be emphasised, viz:

- Feedback should ideally be based on trust between the sender and the receiver;
- Feedback should rather be specific and not general, and it is preferable to contain recent examples;
- Feedback should be provided at the moment when the receiver seems ready to accept it;
- Feedback should be checked in point of what the receiver regards as valid; the sender may require the receiver to rephrase or repeat the feedback in order to see what the receiver really intended to express;
- Feedback should include the tasks the receiver is able to perform it should not include more than the receiver is actually able to carry out in the allotted time.

De Landsheere G. states that feedback, in its quality of "information sent back to the source", may be positive or negative, instant or delayed; in his turn, Gamble suggests a distinction between *evaluative feedback* and *nonevaluative feedback*. Thus, nonevaluative feedback is effective in maintaining and optimising communication.

Concerning the evaluative dimension to be seen in this type of nonevaluative feedback, it is obvious that "optimal communication by this type of feedback results in performance improvement" [2, (2001), 183]. In the Romanian higher learning, where the intensity of teacher-student relations is lower than in pre-university education, one ought to take into account the nonevaluative type of feedback. In turn, evaluative feedback implies forming an opinion on an issue in discussion, performing a judgement, either positive or negative, based on our own axiological system. It comprises three types of feedback: positive, negative and formative. Positive evaluative feedback attempts at maintaining communication on the path it already follows, while the negative evaluative feedback serves a corrective function helping in diminishing/ removing inappropriate communicative behaviours. Formative feedback is a particular type of negative feedback situated at the boundary between evaluative and nonevaluative feedback, trying to evince the advantages of either. It presupposes, according to Bontaş I. [2001], that the positive evaluative feedback should be provided immediately after an activity was carried out successfully (e.g. formulations of the type "Good job"). Negative evaluative feedback presupposes a delay until the moment when the activity may be resumed, being seen more like a support than a critical remark. Anyway, Gamble proposes that the negative feedback should contain

formulations like "I see the situation as..." or "It seems that ...", rather than "The situation is so", as it provides the interlocutor with the opportunity to rectify things without being blamed for the mistake made previously.

An interesting remark on the type of evaluative feedback is the fact that organisational literature calls it feedback 360°. Due to the importance attached to this type of feedback in the assessment of an individual's or an organisation's performance, it is useful to apply it in the assessment of a school as an organization.

Among the numerous methods used in improving life in organisations, *feedback 360°* occupy a special place, being salient by the evaluation method different from the other means of action, due to the high number of persons that may be involved in a short period of time, and the results obtained. Perhaps owing to these reasons, according to various sources, the method acquires an ever greater importance, as since 2000, over 50% of the Western companies performing systematic assessments have also been using this method. The method may be considered as having an exclusively evaluative purpose as regards individual performance, attitudes and behaviours, but it may also serve as a method of increasing effectiveness in communication within the institutional framework. According to G. Johns (1998), *feedback 360°* refers to the evaluation which uses as input data the assessment of the individual in question performed by managers, employees, colleagues, beneficiaries and customers. Collecting data from various sources, viz. individuals working with the person being assessed, and a global, multifaceted version emerges. In general, it is applied to managerial levels ... and their support should be obtained. Besides these categories of respondents, each individual subjected to assessment should also perform a self-assessment, in view of comparing the self-image to the image formed by means of the others' opinion. The purposes of applying this method may be varied, including both technical and professional aspects, and interpersonal issues whereby the organisational responsibilities are carried out. The professional formation of the educator should include all the quality parameters focusing on creating the new, cultured, active man, dedicated to the values promoted by society. The teacher, who is a model of behaviour and professional training for his students, exerts upon them a tremendous influence not only by the volume of knowledge he conveys, but also by the cultural horizon he opens up to the students, his manner of thinking, his ideological conception, his permeable, fluid intellect, available to everything new and continuous reception. His professional formation deals with the competence of the "specialist", seen against a background of general culture, mobilised and supported by a thorough psychological, pedagogical and methodical

training, from a theoretical and practical point of view. By the mere nature of his activity, the teacher is required to possess a wide cultural horizon, detailed information in the various fields of its activity and an unquenched thirst for knowledge, to properly respond to the interests of his students.

This line of work requires a new and rejuvenating attitude, a continuous struggle to prevent routine, stagnation, schematism and formalism. The permanent openness to new issues constitutes a fundamental component of the teacher's motivational system, aiming at constantly increasing his efforts for an ever higher quality of his activity.

The teacher can successfully accomplish his educational mission only if he has acquired the skills and capacities necessary in providing the teacher-student relationship with a new vision. Close, trusting, cooperative relations should be a permanent must in the common activity of the teacher and his students.

The initiative of the future teachers in teaching methodology and the acquisition of the complex skills necessary in their activity presuppose a basic scientific training, as well as a set of didactic skills such as:

- Use of audio-visual means, work organisation in specialised school laboratories;
- Organising work in multimedia labs or specialised rooms;
- Getting accustomed to properly assessing the students' results, as well as organising, guiding and directing the extracurricular activities, specific to the subject taught.

The teacher's formation means the development of the abilities to organise, guide and effect not only the general education class, but also the other activities specific to his form teacher status. All these skills pertaining to didactic technology require exercise, direct contact to school situations, achieved by pedagogical practice, allowing the student to independently solve all the educational and didactic problems confronting him. Permanent improvement in teacher training is a vital requirement in modern education, a prerequisite of its very existence and progress. Self-improvement constitutes the main path towards improving the professional activity, which each educator should perform individually, according to his own plans. Improvement in accord with self-improvement results in the expected changes in the educational process. The conscience and professional deontology, the pride of belonging to the most numerous categories of intellectuals leads to transforming self-improvement into a permanent defining characteristic of a teacher's daily work. Discussions with co-workers, assisting in their activities, organising experiments and investigations, applying the results of other research, critical self-examination, self-grading,

etc. are positive methods of improving one's own activity. In order to be effective, communication should be circular and self-regulatory. The central component of this self-regulation is the feed-back allowing the receiver to issue his reactions. Accurate communication presumes role flexibility, interaction and not only information conveyance. Any communication should be bilateral. Back action corresponds to the following 4 functions:

- Understanding control, viz. receiving messages in the best conditions;
- Adapting messages to the audience, the obstacles on the transmission path or other events presupposing an alteration of content or form;
- Social regulation function by role flexibility and the functions of the various actors, able to facilitate understanding the other's point of view and social education;
- Social affective function – the existence of feed-back increases the actors' "internal safety", reduces apprehension and increases satisfaction.

In a general sense, feed-back refers to the manner in which finality becomes causality, while the manner in which the anticipation of finality turns back into causality constitutes the feed-forward. If the feed-back exerts its action after the finality was achieved, feed-forward acts preventatively, sequentially controlling the progress toward the finality desired. Feed-back means transmitting verbal or non-verbal information from the students to the teacher in view of regulating and self-regulation the educational process. Depending on the information obtained regarding the quality of teaching and learning results, communication has become the most visible human action, prone to assessment and study. By definition, communication is the fundamental means of psychosocial interaction of individuals, which presumes informational exchanges through symbols and socially generalised significants, in view of preserving stability or, as the case may be, acquiring attitude and behaviour changes in an individual or a social group. Educational communication is an important instrument in achieving the educational phenomenon in its entirety, and didactic communication is a special category, compulsory in conveying determined contents, specific to a systematic learning act. It may be structured according to the idea that it is an instrumental communication, directly involved in supporting a systematic didactic process where there are no content reactions (focused on acquiring knowledge or skills, motivation, etc.), existing in an institutional framework (there may be didactic communication even outside the educational process), or regarding the partners.

Therefore, communication is the process of conveying information from a sender to a receiver, which is informative in nature. However, since the

educational process is a complex undertaking, the educational act presumes a series of specific actions. According to the choice of facts, the teacher should focus on the manner of introducing the notions, viz. communication, which is not a regular one in these circumstances, but a specific form. It has to attain certain objectives, convey a content accepted by the students, produce changes of the students' personality at the cognitive, affective, attitudinal, acting level. The didactic character of communication derives from observing the laws presumed by a systematic didactic act, on condition that the source of communication does not exclusively rely on providing information.

Didactic communication contains message exchanges of the semantic type (information, knowledge), and ectosemantic type (attitudes, beliefs). The message exchange takes place between teacher/ educator and students, viz. the formed personality of the teacher and the student's personality which is in formation.

That is why didactic communication lies at the foundation of the process of teaching-assimilating knowledge, requiring a documented and justified selection of the educational contents. The sender and the receiver are the student and the teacher respectively, who may also switch roles. Among them there is the communication channel, conveying a common code (the language), plus the paraverbal and non-verbal elements. The message is subject to coding and decoding processes, which allow its fitting to the student's lexicon. The difficulty lies in this translation of the message into the language of concrete operations, or the language of performing actions, which may create a gap between student and teacher. The code used (the system of linguistic signs) is threefold:

- The level of the linguistic code,
- The level of the didactic code,
- The level of the specific code.

The structure of didactic communication depends on the pedagogical logic. Didactic communication is dominated by the teacher for the most part, as he is also the main factor in the entire educational act. The teacher should prove communicative competence, which consists in using the codes specific to the codes of the educational language, be it linguistic, didactic, specific, in combinations proper to the learning situation. He should be able to use language as the primary means of education. The coordinates of an appropriate language should be: variation, style, rich vocabulary, to the point, emotional, mobilising, simple, intelligent, coherent, pleasing, nuanced, fluent, plastic, readable handwriting. Especially in recent years, which witnessed a tremendous development of information and mass communication, the teacher has to be abreast with processing the latest and newest information.

Generally speaking, the feedback is the modality whereby the finality returns to its status of causality, while the method whereby finality

anticipation turns back into causality is a feed-forward type of action. From the point of view of the didactic process, feed-back may be seen as communication on learning. The didactic act imposes the existence of a feed-back bringing the information from the receiver to the sender and regulates the activity of conveying information. In the case of didactic communication, the dominant activity for the receiver is the learning process. The teacher communicates not only to inform, but to create the premises of changes in what the student knows and wants; in his turn, the student is not just the receiver of information, but the individual available to turn the received information into action.

If the situation of communication allows an optimal presence of each of the two types of feed-back, it may be seen that the following occur:

- The increased efficiency of the didactic act;
- Creation of a secure environment for teacher and students;
- Improvement the interpersonal relation between the participants in the didactic act.

The effectiveness of the communicative act is higher when the teacher proves empathy, accepts assertiveness in communication and proves pedagogical tact. The aspects subject to analysis converge towards interpreting didactic communication as one of the major resources of the educational process. It is part of the latent contents of the formative process, being a source of increasing or diminishing the formal contents. It is well known that nowadays "communication management and design appear as basic principles in the educational design" [8, (2002), 125]. It should be taken into account that if the students are questioned and taught to ask questions, then the educational message is subject to active and critical reception, issuing an axiological judgement. That is why feed-back, as a form of inverse connection, is a very important regulatory mechanism as it facilitates the didactic act, viz. communicating knowledge from the teacher and receiving and assimilating information by the student.

A message, regardless of its content, as Ioan Nicola [1996] considers, becomes a didactic message the moment it starts, facilitates and stimulates the learning process according to the pedagogical variables that it involves, function of the learner's personality and the actual learning situation. Therefore, the teacher-student communication relation cannot be considered genuine didactic communication outside a specific normative framework, and the laws presupposed by the systematic learning act. This is why the mere conveyance of information to students is insufficient if it does not take into account the effect they produce on a cognitive and formative level, outside the regulatory information provided by the educational system itself. From this point of

view, it may be stated that the principle of inverse connection represents "a law of the didactic act, its application during the entire lesson and in general the entire learning process, is objectively imperative" [7, (1996), 178].

Feed-back as a form of inverse connection, facilitates both teaching and learning, as progress results from the multiple interactions between teaching and learning, the teacher's activity and the student's response; didactic communication is bilateral, both participants in the process being able to send and receive information. Both sending and receiving information have different senses, evinced mainly in the analysis of the teaching – learning process as a system, through its vital components, viz. command and control. Command ensures the information processing and conveyance so that the best effect is obtained in training/ forming the student. In this case, the teacher-student relation will be "a direct one, from command to execution" [5, (2005), 138] thus being unilateral in character. Control focuses on the manner in which the effect anticipated by the command was actually performed, and thus the teacher-student relation is reversed, viz. receiver-sender, or execution-command. Control enters the scope of feed-back through which the effect of the educational action returns to causality, triggering a new educational action. From the point of view of didactic communication, inverse connection may be analysed from a twofold perspective. Specialised literature mentions a feed-back regulating the didactic message, the activity of conveying information, and also the feedback regulating information learning, reception and assimilation. Feed-back is therefore not just an effective means of regulating the didactic message, but also a specific modality of self-regulating learning. The teacher constantly regulates the form and content of the information he conveys, and generally his attitude towards the teaching process, depending on the manner in which his message is received by the student. At the same time, the student may self-control the act of receiving information, viz. learning, on the basis of the references provided by the teacher. Thus the relation between the two poles of communication acquires new valences and leads to high academic performance.

The teaching-learning activity presupposes a control modality, indicating the extent and effectiveness of reaching the objectives proposed. This is called the "cybernetic" significance [4, (2006), 20] attributed to the didactic method used by the teacher in the didactic act. It is a technique that includes:

- Programming elements (sequences, operations, behaviours, etc.);
- Elements of command or guiding the student's activity;
- Elements of retroactive connection (feed-back).

In this sense, the learning method appears as "a means of guiding learning, through the stimulating intervention of programming, accompanied by an immediate systematic control of the registered partial results (assessment) and by adjusting and correcting the progress of the given instructional cycle" [4, (2006), 20]. Convinced of the necessity of achieving feed-back in the teaching-learning activity, and especially of its effectiveness, R. Mucchielli stated that "lack of feed-back reduces learning to a discourse deprived of reception, effectiveness, frustrating for both partners, especially for students". That is why the learning situations which are missing the comments on the students' answers or the explanation of criteria for grading may not guarantee high learning efficiency. In this feedback, students find answers to their inner questions related to their evolution:

- Am I on the right path?
- What may I improve?
- What am I doing right?
- What is my situation in general?

By receiving feedback on his progress, the student is able to self-monitor effectively, have higher aspirations for his future achievements, more self-contentment and higher performance in general. Allotting time to talk to the student, and provide constructive criticism, the necessary support, suggestions and positive feedback, teachers may have a positive impact on the learning process. An effective feedback should observe the following criteria:

- It should be corrective in nature, it should offer students explanations on what they are doing right/ wrong;
- It should occur at the right moment, as the immediate feedback is the most efficient;
- It should comply to a specific criterion, as it should refer to a specific level of competence or knowledge, and not be a norm in itself;
- It should allow students to provide their own feedback, as students should be aware of their own progress and able to self-assess their performance on the basis of the teacher's feedback.

Feedback may be informal or formal. In informal feedback, teachers may pass through the students' desks and make comments on their work. By this type of feedback, students instantaneously receive suggestions and may make adjustments on the spot. In formal feedback, students participate in a meeting with the teacher, in which he checks out the progress towards the objectives previously established and works together with them to decide on new objectives.

Such meetings help develop autonomy and protect students against the fear of failure. When students receive feedback when the activity is in progress, they may learn from their own mistakes, make the necessary adjustments and therefore

obtain better results. The best feedback seems to be the type that includes an explanation on what is right and what is wrong in the student's answer. In addition, asking the students to work on a task until they manage to bring it to an end seems to improve their performance. Encouragement, praise, high grades or, on the other hand, negative remarks or poor grades fulfil their educational function only when they are used according to didactic principles. Moreover, taking into account other factors different from assimilated knowledge, such as behaviour, attitudes manifested by students, degree of value incorporation, etc., provides the teacher the opportunity to offer a more consistent feed-back. Emphasis is laid in specialised literature on the means used by the teacher to shorten feed-back, the path from learning quality and effectiveness to learning optimisation. So, the students' efforts and their mental disposition for learning may be exploited, together with the teacher's ability to anticipate the students' potential and even the finality of the educational act.

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Feed-back en didactique de la communication

Résumé: Par sa fonction de l'instrumentalité, la communication didactique englobe le phénomène de back-action (actions récurrentes propagé inversement des effets aux causes). Sur les formes de back-action également présent dans la communication didactique peut être axée sur feed-back. Pour être efficace, la communication devrait fonctionner comme un système d'auto-réglementation circulaire. L'élément central de

cette auto-régulation est représenté par un feed-back, permettant au destinataire d'exprimer ses réactions. Une communication précise suppose la flexibilité des rôles, l'interaction, et non pas une simple transmission. Toute communication doit être bilatérale. D'une manière générale, feed-back est la modalité par laquelle le résultat revient à la causalité, tandis que la modalité par laquelle l'anticipation du résultat revient à la causalité est appelé feed-forward.

Feed-back în comunicarea didactică

Rezumat: Prin caracteristica sa de instrumentalitate, comunicarea didactică înglobează fenomenul de retroacțiuni (acțiuni recurente propagate în sens invers

de la efecte la cauze). Dintre formele de retroacțiuni prezente și în comunicarea de tip didactic reține atenția: feed-back-ul. Pentru a fi eficientă, comunicarea trebuie să funcționeze ca un sistem circular și să se autoregleze. Elementul central al acestei reglări este reprezentat de feed-back ce îi permite receptorului să-și emită reacțiile. O comunicare corectă presupune o flexibilitate a rolurilor, o interacțiune și nu o transmitere. Orice comunicare trebuie să fie bilaterală. În sens larg, prin feed-back se înțelege modalitatea prin care finalitatea redevine cauzalitate, în timp ce modalitatea prin care anticiparea finalității redevine cauzalitate constituie feed-forward-ul.

FOR A NEW CONCEPTION ON PHYSICAL EDUCATION AND SPORT

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Abstract. *The body and the spirit of the young population depend on the spirit of the period (times) they live in. This factor, namely "time" has to be part of the education and, consequently, of the physical education, too, through the implementation of a new conception in relation to the way it is carried out.*

The contemporary school can no longer avoid the interdisciplinary problems that pertain to all the professions and to all the citizens capable of accomplishing their social, ethical and political roles. It has been noticed that there can be no development without peace, that there can be no authentic peace without respecting the human rights and ensuring the fundamental freedoms, and that, in their turn, these freedoms and rights are an illusion where there is misery, hunger and illiteracy.

Key words: *context, school, tradition, leisure time, health.*

Introduction

In the analysis of the specific aspect of the contemporary society, in which there lives a generation of children and young people submitted to the most diverse temptations, we must start, first of all, from the things that individualize this generation by comparison to the previous generations. We are very often tempted to appreciate that the educational methods, principles and means used in the past are valid for ever. The modern society with its pluses and minuses, contradicts such a conception, the actual generations of children and young people being no longer comparable to the conditioned model, shaped, it is true, by the social-historical context of the past. This should not lead us to the conclusion that the contemporary preadolescents and adolescents do not have common features with those of the previous periods or that we are dealing only with permanently shifting values.

Formulation of the problem

The socio-economic conditions leaving their mark on the entire educational system have influenced as well the way the governors have seen and perceived the

role of physical education in the training of the generations, often underestimating its effects on: health condition, physical, motor, intellectual, esthetic development etc. The actual perceptions of the educational process are directed towards:

Integrated education, which stands apart from the normative traditional education through its flexibility and adaptability to the special needs of all the teachable in general and especially of those with disabilities.

Inclusive education, which generally values all the participants assuring an adequate framework for them to obtain maximal performances.

Interdisciplinary education, gaining more and more terrain in and through the way it approaches a modern class, answering the need for cooperation between different disciplines in order to find solutions to a set of complex problems that cannot be approached except from a convergent perspective and with a prudent combination of several viewpoints [1].

For Romania, physical education and sport must represent domains of strategic importance in the

development of our society, only in this way will they be able to be efficient in the increase of the human capital.

Paradoxically, in Romania, the decrease of the volume of classes, until Law no. 1/2011 came into force, was due exclusively to the will of the central authority, which has shown a hardly explainable skepticism concerning the importance of this form of education, a skepticism that has still not disappeared, even though the above-mentioned document is favorable.

In this context, according to a European Commission study, carried out among 26,788 European citizens in October 2009, the citizens of the northern

Solution to the problem

a) Physical education versus "new educations". The last ones come to meet the problems – not few at all! – facing the contemporary world, in which education has the difficult task of passing on a culture accumulated throughout the centuries, and also a training for a future largely unpredictable. [9,10]. The novelty of the challenges or problems leads to the novelty of the answers, and determines the inter- and trans-disciplinary character of these new contents. The process triggered stimulates the passage from specific approaches to global, interdisciplinary approaches, allowing a deeper study of certain social issues requiring concrete solutions: democracy, peace, environment, food, health etc.

Education for and through leisure time. Leisure time is a value that should not be wasted in any way and which can be invested above all in the development of the human being through an adequate education, which leads as well to the distinction: physical education, education for leisure time, education through leisure time.

Regardless of the way one approaches it, physical education produces beneficial effects on the individual's personality only in as much as a sufficient workload and contents matching the proposed goals are assured.

The education for valorizing leisure time is important for schools, which aspire to grow a physically and intellectually robust child. It exerts its educative role through everything it communicates and forms during the educational process, and also through the force of influence conveyed through the unorganized activity, during leisure time. The bridge between these two coordinates of life, during the school stage, is represented by the extracurricular activities and by the activities carried out outside the school environment.

Analyzing the behavior of today's young people during their leisure time, we notice quite obvious changes. Unlike in the case of the previous generations, there appears a tendency to get closer to the adult behavior.

states are the most active in sport. Sweden (72%), Finland (72%) and Denmark (64%) go over the European average of 40% of those who do sport at least once a week. Under the European average are situated the Mediterranean states and the new EU members – with Bulgaria, Greece and Italy situated in the lowest positions, with 3%. Most Europeans (65%), however, do some form of physical exercise at least once a week. In Romania, according to the above-mentioned study, only 8% of the citizens declare that they do physical exercises or sport regularly, compared to 9% in the EU.

From the way he defines the socio-pedagogical concept of "loisir", Joffre Dumazedier deduces the three "d"s:

a) détente (relaxation) – the organism's recovery after a day of work, of school, the regeneration of the physical capacities through activities of relaxation.

b) développement (development) – aims to fulfil one's interests, inclinations, artistic, technical skills, to enrich one's spiritual life by reading, watching shows, going to museums, creative activities, etc.

c) divertissement (fun) – its aim is the creation of an optimal life climate and it is achieved through funny activities, which can however result in the use of a large amount of energy and time and which along with the fatigue caused by school or work on the job can have negative consequences.

The ways of organization are multiple: sport, music, reading, trips, computer, TV, reviews, cultural and artistic clubs etc, are all sources of information and for developing a person's humor and intelligence. The biological and cognitive development periods present in the most natural way a "personal way of understanding" time organization, based on education and personality.

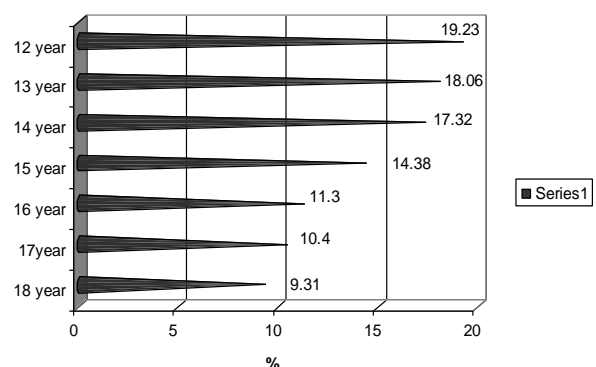


Fig.1 The sample structure under investigation based on questionnaire

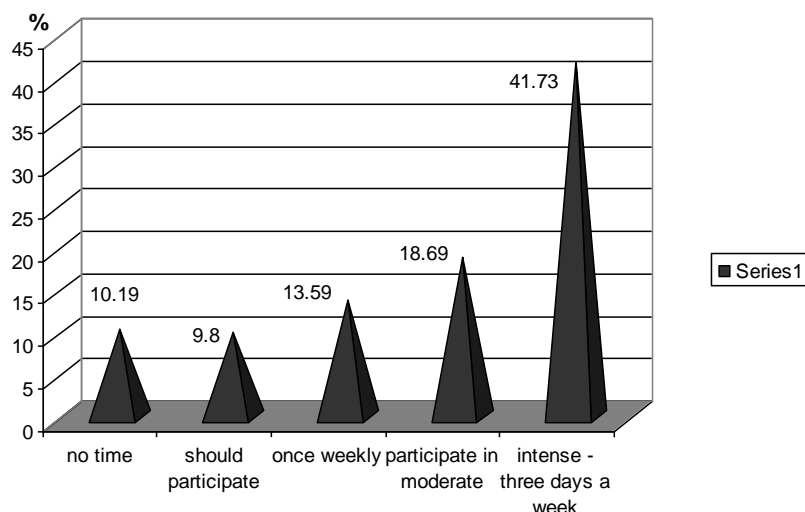


Fig. 2 Subjects' involvement in physical activities weekly

The results of a survey, carried out during the period 2006-2007, in the Romanian urban environment, following the YRBSS, CORT model, and the questionnaire proposed by the National Center for Education in Maternal and Child Health and Georgetown University concerning the preadolescents' and adolescents' physical activity [8, 12, 13], with the participation of 687 students aged between 12 and 18 (Fig.1) have highlighted that: 41.73% of them take part in an intense physical activity three or more days a week, 18.69% of them take part in a moderate physical activity five or more days a week, 13.59% practice physical exercises only once a week, 9.8% would like to participate to such activities but the school program is too loaded, while the remaining 10.19% have no time for such activities (Fig.2).

These proportions are much lower than those obtained by applying the YRBSS in the USA in 2003 (63% of the adolescents participate in an intense physical activity and 25 % in a moderate physical activity [12,13]. A worrying fact is that, though from this viewpoint our results are similar, another quite significant proportion of the Romanian preadolescents and adolescents do not perceive physical exercise, motion in general as health-generating activities.

In conclusion, the education for and through leisure time, based on the use of physical education and sports is important, at least for the following considerations:

- a) to answer the question that can be seen in any student's eyes: "how could I manage my time so as to relax as much as possible?";
- b) because the focus of social attention has changed from the society as a whole to the individual - the social person and his welfare;
- c) because of the need to penetrate in the mechanisms of the market economy, which includes the education centered on the individual's needs, by assuming new values: individuality, free initiative, competence and competitiveness, loyal concurrence, a

responsible risk-assuming attitude, the ability to build one's own success.

Education for health. The modern viewpoint is that health has several dimensions - emotional, intellectual, mental, physical, social and spiritual, each of them contributing to a person's welfare condition. To keep his/her good health, a person needs to examine each of these dimensions and learn about how to live a long life and also to fully enjoy life.

Physical health refers to the condition of the organism and to its answers to injuries and disease. Having in view the concepts of physical education, sport, education for health, and the goals of the community in this direction, we will present the results of the above-mentioned study concerning the way the preadolescents and the adolescents perceive the relation between: the above-mentioned concepts, health condition and its influence on school results and the degree of satisfaction, dissatisfaction in relation to the expectations and the way physical exercise is promoted as an important factor for the formation of a healthy lifestyle in the school environment.

The analysis carried out has shown that the subjects (687 pupils aged between 12 and 18) have a perception that agrees with what health and its contemporary dimensions mean: a good physical condition (partial agreement – 24%, agreement – 49%, total agreement – 27%, Fig. 4), a good psychological condition (partial agreement – 25.4%, agreement – 45.3%, total agreement – 29.3%), lack of disease (partial agreement – 18.6%, agreement – 43.4%, total agreement – 38%), lack of infirmity (partial agreement – 17.5%, agreement – 28.3%, total agreement – 54.2%) and a good mental condition (partial agreement – 24.8%, agreement – 39.2%, total agreement – 36%). Among others, answering the open questions, the interviewees have considered that their school results are influenced as well by: weather, disposition, laziness, luck, mood. Others have appreciated that their happiness is influenced by their social environment, fun, hobbies, sentimental relationships and that health assures their success in life.

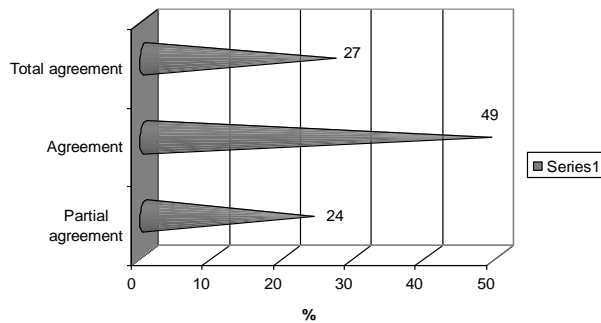


Fig. 4 Perception of health concept among subjects - good physical condition

In numerous countries, the goals of certain programs promoting an active lifestyle include concrete aspects, based on realistic prognoses. A reediting of the study concerning the biomotor potential of the school-aged population would bring, we are sure, convincing data concerning the physical and motor development level of these subjects, useful to the general orientation concerning physical education in Romania.

Education for change and development. Another aspect of the contemporary young people should challenge us, the teaching staff of the physical education domain to an increase resistance to the increasingly more obvious tendency towards laziness to the expense of movement. The tendency towards comfort is characteristic for today's society, the phenomenon recording a continual increase. Doctors frequently warn that the consequences of the lack of movement trigger a large series of abnormal health conditions, and not of the least serious. So, the training of the domain of physical education has the duty to contribute to fighting off this specifically contemporary calamity.

It is no wonder that today we no longer find among the young generation an aversion towards the attributes of civilization. In our opinion, it is wrong, however, to reproach the young people with the fact that they fell a prey to technology. Only through our daily relation with the technical civilization are we able to shape ourselves according to the conditions imposed by the society. If we were to acknowledge the present living conditions, today's young people are radically different from the generations of the 20th century. Spending one's leisure time in front of the TV and of the computer has bad effects not only on people's health, but also on their interest concerning the conservation of nature.

Listening to loud music for a long time on the portable player may lead to permanent hearing damage, warn the scientists, according to a note by the UE Scientific Committee concerning the emergent sanitary risks. The specialists of the above-mentioned committee estimate that 5-10% of the people using personal audio players risk a permanent loss of their hearing if they listen for more than one hour a day each week, at a high volume level for at least five years.

During the last few years, the noise that young people especially get exposed to while practicing leisure

time activities has become a serious threat for their hearing, because it can reach very high levels.

Discussion

Our opinions presented so far could give the impression that we actually tend only towards the adaptation of physical education to modern life. Though we want to place adaptation on one of the primary places in physical education, it should not be, however, its unique principle. An efficient physical education emerges in the field of action in-between adaptation and resilience.

A physical education adapted to our times should often act today also as resistance to the tendencies of these times and to people's biases. The fact that we have mentioned that the physical education teacher has to bring to a common denominator the tasks of physical education and life with the behavioral structure of nowadays' young people, does not mean we should not fight off sometimes, through our educative measures, certain negative tendencies, of which many are actually in fashion. No positive education should be directed exclusively according to the interests of the young people. In order to attain a goal set by society, through education, some individual claims should at least be limited. From this viewpoint as well, the physical education teacher has to resist the young people's tendencies in certain concerns.

By treasuring life, by including and validating the positive individual and group experiences (courage, interpersonal skills, esthetic sensibility, perseverance, awareness of the future, talent, responsibility, altruism, tolerance, etc.), through their sometimes critical reflections on the social context, sport activities contribute to: the diminution of the pathogenic conditions, the creation of an optimistic environment, stimulating towards action, the formation of attitudes and habits related to the valorization of one's personal needs, all these creating the premises for the modeling of a complete, open personality capable of high performances.

From the perspective of the new patterns of formative tendencies in the education of the young generations of today's society, sport activities should find the right balance between formal education as a main landmark and the informal orientations, which assure the nuances supposed by any complex domain.

Conclusions

Modern physical education is still quite based on the old-fashioned conception of a unitary education for the young people, while today's people have a different understanding on it. In physical education, we should not consider this outdated perspective and:

- a) we should give up on the note of seriousness of the leisure practiced. Leisure should preserve first of all its attribute of fun;
- b) we should adapt the content of the leisure time to the tendencies of today's young people. Youth sociology often indicates the flagrant discrepancy between the forms of leisure provided and those the young people would choose by themselves. This could be one of the reasons why the offers of work within school or

in extracurricular clubs (associations) are rejected;

c) we should realize a match between the type of leisure and the environment the contemporary youth lives in. Under this aspect as well, the physical education teacher has to resist in certain directions.

Physical education in schools and universities represents a form of preparation for long-term education, which means a lifestyle, a way of thinking and acting to the benefit of one's own person but also to the benefit of society. So, in this context we could talk about the reform needed in order to change the mentality on the contents and especially on the management and the organization of physical education in Romania.

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Pentru o noua concepție despre educația fizică și sport

Rezumat. Fizicul și spiritul populației tinere depinde de spiritul de cel al perioadei(timpului) în care trăiește. Acest factor „timp” trebuie să facă parte din educație și, prin urmare, și din educația fizică prin implementarea unei noi concepții de realizare.

Școala contemporană nu mai poate ocoli problematică interdisciplinară care este a tuturor profesiunilor și a tuturor cetățenilor capabili să-și îndeplinească rolurile sociale, etice și politice care le revin. S-a constatat că

dezvoltarea nu poate avea loc fără pace, că pacea nu poate fi autentică fără respectarea drepturilor omului și asigurarea libertăților fundamentale, că la rândul lor aceste libertăți și drepturi sunt iluzorii acolo unde domnește mizeria, foametea și analfabetismul.

Cuvinte-cheie: context, școală, tradiție, agrement, timp liber, sănătate.

Pour une nouvelle conception de l'éducation physique et des sports

Résumé. Le corps et l'esprit de la jeune population dépend de l'esprit de la période (des temps) où elle vit. Ce facteur „temps” doit faire partie de l'éducation et, par conséquent, de l'éducation physique aussi, par l'implémentation d'une nouvelle conception en ce qui concerne sa réalisation.

L'école contemporaine ne peut plus se dérober à la problématique interdisciplinaire qui appartient à toutes les professions et à tous les citoyens capables d'accomplir les rôles sociaux, éthiques et politiques qui leur incombent. On a constaté que le développement ne peut pas avoir lieu sans la paix, que la paix ne peut pas être authentique sans respecter les droits de l'homme et l'assurance des libertés fondamentales, et qu'à leur tour, ces libertés et droits sont illusoires là où la misère, la faim et l'analphabétisme règnent.

Mots-clé: contexte, école, tradition, loisir, temps libre, santé.

CONSIDERATIONS REGARDING THE CAPITALIZATION OF THE THEORETICAL KNOWLEDGE PREPARING THE STUDENTS IN THE DISCIPLINE OF "BASKETBALL" BASIC COURSE

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***Summary:** The structure and the content of the present analytical project does not justify the setting up of the student's demonstrated profile proceeding from the future professional requirement, and the report between theory and practice is no longer well-balanced, insufficient for the elements learning and consolidation and for the basic technical process which are specific to basketball game. Under those circumstances, the necessity for creative construction of action is obvious.*

The present work is a sample from an experimental ample study which followed the optimization of technical part in the basketball game, but also general aspects regarding the professional training of students in this faculty.

***Key words:** theoretical training, evaluation, students, the technique and game tactics, basketball*

Introduction

A full evaluation of the process of basic training course of "Basketball" should establish an optimal rapport between the informative and formative aspect. The two aspects are in a correlation relation and are performed simultaneously. Thus, authors like Barna A., Antohe G., 2001, said that training is always a consequence of information, representing a solid ground for its realization. In this context the practice is that which gives knowledge, generates premises for news, and the theory describes, renders, checks and makes steps as to be applicable.

The effectiveness of training students for the "Basketball" course focuses on their involvement in the learning process and the current correlation between the theoretical, practical and methodical knowledge.

A summary of the idea outlined above, that executions of the efficient techniques are complemented by theoretical knowledge contribution, which together with the methodical ones makes easier their understanding, deepness, durability and applicability in the specific game practice. Thus a number of authors (Hânsa C., Călin L., 2004, Moanță A., Predescu T., 2001, Moanță A., 2005, Ciociu D.L., 2009, etc.) recommend that from the methodology of learning techniques and tactical actions specific for the Basketball game, not to be omitted the theoretical training by describing and explaining the notions of execution, common mistakes, specification of applications, etc.

Hypothesis

The students' training efficiency at "Basketball" course is about their involvement in the learning process

and the correlation between the *theoretical, practical and methodical* knowledge with applicability in specific motor skills, building the game sequences, compliance with the terms of the regulation.

Research tasks

Assessing the level of theoretical training of students in the course of "Basketball".

Research methods were: analysis and generalization of data from literature, study of programming documents, planning, evidence and control in the syllabus of the basketball course, teaching experiment, statistical-mathematical method, graphical and tabular method.

Organizing research

To see if the proposed new curriculum has contributed to the technical preparation of students and through the theoretical knowledge, there was made a final evaluation for the both groups at basketball course.

The control group (n=42) studied the basic unit course according to the old curriculum, which is in liquidation (2005-2006) and the experiment group (n=45) according to the new curriculum, which framed the component of technical training of students in a methodological modern concept (the specialized video analysis) and which allowed an efficient educational step (prevention, screening, correction of technical mistakes).

Note that the qualitative aspect was crucial in assessing students, tracing what they have acquired as theoretical information from the proper game and especially from the technical support, if they operate with this knowledge creatively, if they integrate it, and obviously which is the proportion of assimilation.

The assessed thematic content had questions about the technical structure, tactics, and general aspects of the game and notions of regulation. We note that in this research there are presented only data obtained from the evaluation questions on technique and tactics of Basketball game, divided by the base in the professional training of students.

The assessment results were achieved through numerical scoring on each of the four themes of the ticket examination structure, which were identically for both groups, the only difference being temporal and training. This assessment has enabled during the examination the

experts' intervention by question of different complexity level, which fueled and completed the students' answers, ensuring effective communication and quick feedback. Thus, there were avoided as a surprise the fragmented knowledge and limitation of development capacity, reasoning and expressing of students.

The research results:

Centralize data from summative assessment of theoretical knowledge at "Basketball" course by the control and experiment groups is presented in table 1.

Table 1

A comparison of the average marks obtained in the theory test at "Basketball" basic course between the experiment group (n=45) and the control one (n=42)

Nr. crt.	The assessed content issues	Sample	Calculate statistical indicators		
			$\bar{X} \pm m$	t	p
1.	Game technique	E M	8,48±0,10 7,19±0,14	7,49	<0,01
2.	Game tactics	E M	8,13±0,12 7,14±0,09	6,26	<0,01

t-tab.=1,99 at the significance threshold P=0,05;
t-tab.=2,64, P=0,01; t-tab.=3,42, P=0,001

Centralization of average mark for the theoretical knowledge proper to "Game technique" recorded the best results of the evaluation of experimental group students.

The average value for the group experiment is (8,48) a difference of (1,29) being registered towards the

control group which has (7,19). Elevated levels of the average mark for the experimental group indicate a good level of theoretical knowledge, reflected at the technical procedures as well. (figure 1).

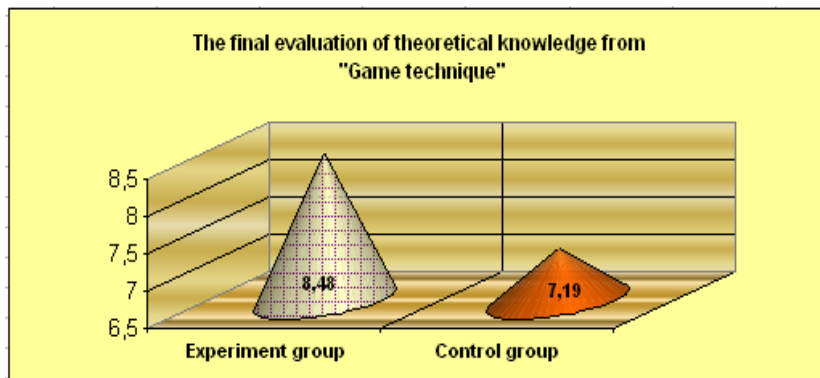


Figure 1. Comparative dynamics results between the experiment and control groups at the final evaluation of theoretical knowledge from "Game technique", at "Basketball" basic course

These data argue that the idea of implementation techniques influencing theoretical knowledge by informing students regarding the procedure, its main link, embodied in the positions, movement stages, oriented elements, etc. the progress is highlighted by the test value

t" with the value of 7,49 which is bigger than the one in the Fisher table with a significant limit of $p < 0,001$.

Student assessment results to the contents of the "Game tactics" were favorable for the experimental group and close as value to the average marks recorded in the

technical compartment, also identically for the control group presented in figure 2.

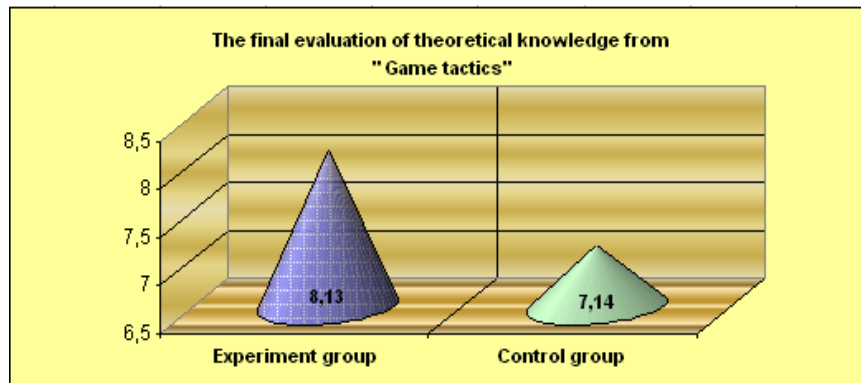


Figure 2. Dynamic comparison between experiment and control groups at the final assessment of theoretical knowledge from "Game tactics", at "Basketball" basic course

The gnoseologic and logical structure of courses for the two compartments of the game, technically and tactically contributed positively to the acquisition of theoretical knowledge specific to the experimental group students. They obtained an average mark (8,13) higher than that of the control group which has (7,14). The value by applying the "t" test shows there is a significant difference between the two analyzed environments ($t=6,26$; $p<0,01$).

Opinions

The data analysis presented above, outlines the theoretical profile of the base rate for the subject "Basketball" course. Differences between the two samples are due to the used syllabus content and methodology. We conclude that the control group in terms of theoretical knowledge and technical components sent during the tactical training had a lower share. In the case of the experimental group the situation is reversed the two components have received increased attention, especially the technical one, being framed in a syllabus with logically and accessible content, given the limited number of hours and the current requirements of the discipline.

Conclusions

- The positive results obtained by students of experiment group (8,48 – the game technique and 8,13 – the game tactics) shows a good level of the quality-quantity reference regarding the acquiring of information on specific knowledge of game, comparing the control group (7,19 – the game technique and 7,14 – the game tactics).
- The new proposed curriculum has contributed through the accumulation of theoretical knowledge and technical skills at the training of students.
- The efficiency of the theoretical course at "Basketball" was determined by the dynamic interaction between the teaching logically, synthetic knowledge, learning, assimilation and evaluation reflected objectively only in the practical and methodical work of the game.

- Efficient execution of technical procedures have been completed also by the input of theoretical knowledge, which together with those methods have facilitated understanding, depth, sustainability and their applicability to situations arising from the game.

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Considerații privind valorificarea cunoștințelor teoretice în pregătirea studenților la disciplina baschet- curs de bază

Rezumat: Structura și conținutul programei analitice actuale nu justifică formarea profilului de „demonstrant” al studentului conform cerințelor profesionale viitoare, iar raportul teorie-practică este lipsit de echilibru, insuficient pentru învățarea și consolidarea elementelor și procedurilor tehnice de bază specifice jocului de baschet. În aceste condiții este evidentă, necesitatea construirii creative a unor modalități de acționare noi, raționale și eficiente. Prezentul articol este un extras dintr-un studiu experimental amplu care a vizat în special optimizarea componentei tehnice în jocul de baschet dar și aspecte generale privind procesul de pregătire profesională a studenților din cadrul facultăților de educație fizică și sport la disciplina "Baschet" curs de bază.

Cuvinte cheie: pregătire teoretică, tehnica și tactica jocului, evaluare, studenți, baschet.

Considérations sur la valorisation des connaissances théoriques dans la préparation des étudiants à la discipline « Basket-ball » cours de base

Résumé: La structure et le contenu des programmes actuels ne justifie pas la formation pour le profil "démontré" d'étudiant conformément les exigences professionnelles futures, et le rapport théorie – pratique est manque d'équilibre, insuffisant pour apprendre et consolider les éléments et procédés techniques spécifiques pour le jeu de basket-ball. Dans ces circonstances, il est évidemment nécessaire de construire

des moyens créatifs pour nouveau disque, rationnelle et efficace.

Cet article est un extrait d'une étude approfondie expérimental axé sur l'optimisation du basket-ball, composante technique et les aspects généraux concernant la formation des étudiants dans les facultés de l'éducation physique et sport à la discipline sportive "Basket-ball" cours de base.

Mots clés : préparation théorique, la technique et tactique du jeu, évaluation, étudiants, basket-ball.

THEORETICAL AND METHODOLOGICAL CONSIDERATIONS ON TEACHING MOVEMENT GAMES SECONDARY SCHOOL PUPILS

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Summary: Games in general are activities of ludical type, with tremendous influence upon the development of the executors' personality from many points of view, including on the level of social integration. They are total, attractive, spontaneous, free, natural and uninterested activities. They also have recreational and compensating facets. That is why they are very much used in organisational forms in the free time of various categories of subjects.

Key words: games, movement games, selection, analysis, conduct.

Movement games constitute an important means of achieving part of the tasks that pertain to physical education. They are largely applied in all the organized forms of this activity: physical education lessons, school festivals and holiday camps. An active sporting influence can only be achieved by an organized activity, led and guided by the teacher, who has the role of performing permanent educational work. Game activities sometimes constitute an independent activity, some other times they are included within the complex of physical exercises in the lesson. In order to reach its goals, the physical education lesson must take into account the relevant didactic principles. That is why it is necessary to focus on the main demands that have to be observed in organizing and preparing movement games and relays.

A. Game selection – in this respect the points to take into account are the topic of the lesson and its objective. Most of the times the games, relays, races concur to attaining more than one operational objective. Supposing the topic and objective have been set, Dragu M., [2006] it is necessary to throw into play the following factors:

- The game collective participants, seen through the intermediary of the number of participants, their age, sex, physical training and development, and state of health;
- The game effective participants; when the game activity is organized with a larger number of

children, the games and relays should be chosen so that to include as many children as possible, thus insuring the effective participation of all players. When the effective participation is reduced, the children's overwork is to be avoided, by reducing the number of repetitions, their intensity and duration, etc.

The children's age – the main factor to be observed in selecting the game is the participants' age. In order to obtain good results one is constrained by the knowledge and observance of morphological (somatic), physiological (functional), mental and motive characteristics of each age and sex. In order to be suitable for a certain age group, the game should meet two requirements, viz. to be acceptable from the point of view of physical and intellectual capabilities, and to arouse interest. Small school children (aged 7-8) are characterized by dynamism and the ability to focus their attention. On the other hand, muscle force, coordination, skill and precision in movement execution can also be developed at this age. We can use games, races and relays on short distances, with and without direction changes, leaps over real or imaginary obstacles, ball relay games especially with catching-throwing elements, climbing games, target throwing and other types of movements. Games accompanied by texts or songs are also very convenient. Generally, such games do not divide the collective into teams. Out of the team games the

commendable ones are simple relays, Tudorache V., [2000], with elements of running, transport or rolling a light ball. The relations between players, the game actions or rules are very simple. At 9-11 years of age, all these elements increase in complexity. Children are inclined to team games, within which each may have a personal contribution to the game's success. It is advisable to use games that do not include direct contact with the opposition. The duration is bigger, and the physical effort may be higher Dragu M., [2006]. The games include the same elements, but at a higher complexity level, such as: catching the ball while running, relays with getting over small obstacles, etc. The rules will be more numerous and complicated. The activities of boys and girls may be common at this age.

Children's gender – a lot of games, relays, races are suitable for both sexes. But there are some games that cannot possibly be practised by girls, such as the games that require muscular strength or sustained, intense effort.

Physical development and training – the game should tally with the physical and mental abilities of the collective, viz. be acceptable. These collectives, i.e. classes, are non-homogeneous from this point of view. Well-developed, strong children are in the same class with weaker, less trained children. That is why the activity should be oriented in such a manner so that to respond to the abilities of all the children in the class, trying to bring the latter category to a suitable level.

State of health – it represents an important factor for the choice and development of the game. Still, there are situations in which, because of objective reasons, the children's health is more fragile, being susceptible to disease in the conditions of intense physical effort or lower air temperature. In such circumstances, the games will be chosen so that to be less strenuous both in intensity and duration.

Activity particulars – games are used in the most varied forms of organization of the physical education activity. For the lessons of physical education, the games to be chosen are the ones that fulfill certain objectives of the lesson topics. For school festivals the games should be musical, races, in pairs, teams, groups, of skill and ability, relays.

Place – it is extremely important in choosing the game. Outdoors is the perfect location for the most varied games, with high effectiveness and various formations. Indoors there are many games that cannot be played, so that the games chosen will have to conform or be adapted to the given conditions.

Weather conditions – when the activity takes place outdoors, especially when the air temperature is low or the humidity degree too high, the games should enhance mobility, involving all the participants.

B. Preparation of the game space – movement games may be organized outdoors or indoors. In either case, the space must be prepared beforehand. The school playground or yard will have to be prepared so that to ensure the unhindered development of the activity, fulfilling the conditions of hygiene in both state and location. The place should be flat, hole-free, with no obstacles that might cause injuries. Some playfields, especially large ones, require marking by coloured flags

to insure visibility. Some others only need simple line markings. When the activity takes place indoors, Antohe G., [2002] the necessary area will be secured, especially in improvised spaces, in classrooms, corridors, etc. The markings are performed by chalk tracings, as the arrival or turning line should not be the wall or some other obstacle, but a chalk marking at a distance of 2-3 meters. For relays, it is advisable to mark the departure point with two lines, one for the departure proper and one for the standby, 2 or 3 steps behind.

C. Preparation of the game material – game diversity imposes the use of a very diverse material. The inventory should include:

- Balls of different sizes and weights;
- Wooden hoops of various sizes;
- Jumping ropes;
- Sand sacks for targeting;
- Different types of targets (panels, poles, etc.);
- Sticks and relays;
- Markers, flags of different colours;
- Distinctive signs for players (scarves, coloured bands, numbers, etc.).
- In general, the material should fulfill the following criteria:
 1. Be suitable, from the point of view of size and weight, to the age of the players;
 2. Be sufficient in number;
 3. Be in good condition.

For the games practised in primary school, the materials should be vividly coloured. The material is prepared before the beginning of the activity. The distribution is to be made after the implementation of the ground rules.

D. Team formation – the teams involved in the race should be equal in number and value, as unbalanced teams do not stimulate the participants. When the game is organized with mixed teams, a balanced proportion of the sexes should be kept.

Many procedures are used in team formation:

- Procedure by counting – players disposed in line are counted in twos or threes, etc. The disadvantage is that the teams are not always balanced in point of value. The procedure is successfully used in all games that do not require specific abilities: catching and throwing the ball, target aiming, etc.
- Choice by the captains – the number of captains is equal to the number of teams that are to be formed. Then the captains choose the players alternately. The disadvantage is the long time necessary in team forming. The procedure can be used if the skills of the participants are clearly stated.
- Choice or distribution by the teacher – it does not take long and it can be done when the teacher knows his pupils well.
- Choice by test – it can only be used in races.

E. Selection of the team captain – there are numerous games in which the teams must have a captain. The selection procedures are as follows:

- By appointment from the teacher – the disadvantage is that the players do not take an active part in the choice. It is used when the time is limited or the players are not yet well acquainted.
- By choice from the players – the procedure is pedagogical in character, as it takes into account the players' desire. It is advisable for the teacher to hint to the skills that the captain should possess.

F. Selection of assistants. They are necessary only for certain games, their role being the control of fulfilling the tasks of the game, keeping the score, etc. This position should be filled by:

- pupils on medical leave;
- other pupils, by rotation.

G. Selection of players. Before the beginning of the game, the players must stand in formation on the starting spot in order to faster understand the tasks and rules, which will lead to simplifying the explanations. The spot will be chosen so that the teacher may have all the pupils in sight, and the other way round.

H. Explanation and demonstration of the game. The exposition must be clear, brief, on an appropriate tone of voice and at the understanding level of the class, in silence and order. The teacher is recommended the following exposition plan:

- Name of the game;
- Its content in short;
- Main rules;
- Directions on appointing the winner;
- The focus of each player;
- Setting the commands and signals for the start, the end and other game moments.

Details are to be filled in during the game. The explanation is followed by a demonstration. Questions may be asked if necessary.

I. Game leading and refereeing. The game starts at a signal agreed upon beforehand after the players have understood the game and know what they have to do. The things to be paid attention to are execution, conduct and rule observance. Some players need stimulation, others need calming down. The referee is the teacher or a pupil. During the game it is imperative that:

- The game actions be closely observed and the rules strictly applied;
- The score be accurately kept.

J. Game discipline – voluntary discipline contributes to a better grasp of the game. The game generates high emotional tension. In some cases players are riotous, and the reason should be sought in game selection, wrong team formation or poor refereeing.

K. Effort dosage – it involves:

- The place of the game within the lesson;
- The amount of physical and intellectual effort spent before the game;
- Age and sex peculiarities;
- State of health;
- The degree of physical development and training.

The dosage of effort is achieved by:

- Increasing or decreasing the field function of the number of players;
- Game duration;
- Game pace and number of repetitions;
- Use of lighter or heavier material;
- Change of formations;
- Rule completion or simplification.

L. Game ending; score- setting and analysis.

The end of the game, like the entire game, must be organized in character. Its early or delayed ending is not recommendable. The factors that determine the game duration are:

- Number of participants;
- Age of players;
- The pace of the game.

Game duration may be assessed:

- In time;
- By number of repetitions.

In cases when the score is tied, the game is extended in order to determine the winning team. At the end of the game the results are established and communicated to the players, then a short analysis of the game is performed, assessing its development, its acquisition, the players' conduct and rule observance. The most successful moments and the players that contributed to them are emphasized; the positive conduct is appreciated and the negative one is criticized. These directions are useful both for the pupils and the teacher in the organization of the games to follow. The inclination of humans towards game underlies the phrase "homo ludens". A series of specialists in the field of physical education, psychology, pedagogy, among which: Emil Planchard, A. Rey, E. Claparede, "consider that the game is an exclusive manner of expression of children behavior" [4, pag.61]. In the specialty literature, more "theories" are presented in an attempt to explain the biological factors determining the nature and role of the game. Thus, the most frequently stated are the following:

- Energy surplus theory – maintains that through game the energy surplus unused during the day is being consumed;
- Atavism theory – portrays games as being the reflection of an inherited trait, the child being considered a "revision" of phylogeny;
- Preparing exercise theory - shows that games correspond to various instincts: fight, erotic etc.
- Cathartic theory – is based on the idea that the game constitutes a means of ennobling some born instincts.

Through the fiction, acquisition, construction games, the child will anticipate its future adult life by using the means at hand and within the limits imposed by the environment. Children's games and, later, adults' games contribute to the formation and development of personality. Games do not rule out effort, tiredness, and serious character. A child who is not playing is not a normal child, and in his subsequent adult life, he is likely to suffer. On the contrary, using the game, adapted to its exterior forms, to precise educational goals, means to channel in a beneficial manner one the most profound

energies of childhood. Ludical activity constitutes a good part, if not the entire day activity of the child.

a. Motion games (dynamic)

Games are pleasant, attractive and beneficial activities. Motion games have a precise theme, chosen with insight. They usually unfold in a reduced space following simple rules. They are especially used in childhood at young ages, in association with music and songs. According to the organization of moving games, one pursues:

- maintaining an optimum health condition
- harmonious physical development and perfection of motive capacity
- formation of basic motor and utilitarian-applicative habits and abilities
- formation and development of certain moral and volitional qualities.

Moving games are organized in strict compliance with the physical and psychic particularities of children. The choice of the moving games is made function of several factors, such as:

- goals to be achieved
- age and sex of participants
- preferences of the participants to the game
- number of participants
- material conditions (place of development and materials used)
- atmosphere conditions etc.

b. Racing games represent a finality of practicing physical exercises.

In the antique Greece, as we have seen, games were organized on the competition system, of fight (agonistica, agon = racing), as racings did not limit themselves just to gymnastic exercises, but cumulated everything that could "heighten" the physical and spiritual value. Agonistics promoted the totality of the racing games: musical, poetic and gymnastics.

Preparation games are focused on acquiring certain basic motive habits and skills, as well as being utilitarian-applicative in character, centering on the formation and improvement of certain habits and skills that are specific to various sporting branches and tests.

Aiding games pursue the learning and improving of certain elements, technique and tactics exercises, development of the motive qualities specific to various sporting branches and tests.

Sporting games, as a form of the game, are characterized by the complex, highly organized and unitary character. The presence of certain rules established by the regulations set by the specialty federations provides a strict development framework. They favour the affirmation of the talents of the athletes. Moreover, sporting competitions have become real mastery shows followed live by an impressive number of spectators and, indirectly, broadcast by multi-media.

Moving games, human activity form

The moving game, through content and effects, present certain advantages as compared to other means of physical education, offering favorable conditions for the simultaneous development of basic motor habits and skills, or specific to the motor qualities, as well as of the mental processes and personality traits. Its multiple

instructive-educational valences explain the inclusion of the moving game as means of physical education within the content of all lessons, in all classes and all ages. They are both a means and a method of education. Through game one understands a situation where a lot of players act who, successively and independently, choose, viz. make a decision (action) from a multitude of choices. This decision consists in choosing in each of the moments set by the rules of the game, one solution, function of the information degree of the player and of the actions of the others, the players. The decisions are adopted in competition situations that encompass both conflicting as well as cooperative elements. As an activity form, the game has a social structure and function. It embellishes and completes life, being indispensable to both the individual and the society as a whole, as a cultural function. The game creates and reinforces order. Any deviation from the rules deforms its character and suppresses its value. The player going against or around the rules spoils the game.

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**Considérations théoriques et méthodiques sur
enseignement jeux de mouvement des élèves du
secondaire**

Mots clés: jeux, jeux de mouvements, la sélection, l'analyse, la conduite.

Sommaire: jeux en général sont des activités de type ludical, avec une énorme influence sur le développement de la personnalité des exécutants de nombreux points de vue, y compris sur le plan de l'intégration sociale. Ils sont au total, attrayant, spontanée, libre, naturel et désintéressé des activités. Ils ont aussi facettes de loisirs et de compensation. C'est pourquoi ils sont très utilisés dans les formes d'organisation dans le temps libre des différentes catégories de sujets.

**Considerații teoretice și metodologice privind
predarea jocurilor de mișcare în gimnaziu**

Cuvinte cheie: jocuri, mișcare, selecție, analiză, conduită
Rezumat: jocurile în general, sunt activități de tip ludic, cu influență enormă asupra dezvoltării personalității executanților din multe puncte de vedere, inclusiv cu privire la nivelul de integrare socială. Ele sunt, atractive, spontane, libere, naturale și neinteresate de alte activități. Ele au, de asemenea, aspecte de agrement și de

compensatoare. Acesta este motivul pentru care sunt a diferitelor categorii de subiecți.
foarte mult folosite în forme de organizare în timpul liber

THE EXPERIMENTAL CURRICULA PLANNING STRATEGY, AIMED AT THE COMBINED MOTOR ABILITIES DEVELOPMENT DURING THE 8TH GRADE PHYSICAL EDUCATION LESSONS

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Abstract: *The physical effort planning on different phases (lesson plans) while permanently changing the main physical effort parameters, will lead to varied levels of effort, further transposed in successive adaptations to various types of stimuli, thus obtaining a long-term adaptation of the body and a connected activity of the body's functions and systems (synergetic effect), allowing the successful completion of the programmed tasks. The superior results at the physical training tests of the experimental classes are given by the increased work-out level (of all the 62 annual lessons, 42 have motor ability related themes, 61.7% that is), in many cases, two different kind of themes being encountered in the same lesson*

Key words: *planning, learning units, accessibility, combined motor skills, approximate and differentiated exposure, physical effort, lesson plan.*

The research hypothesis is based on the assumption according to which the development of motor abilities in lower secondary education, based on a differentiated physical effort exposure is bound to contribute to the improvement of the effort capacity and the physical training level, thus facilitating the completion of the 8th grade's reference goals and of the 8th grade student model components.

Employed research methods: the analysis and specialized scientific literature generalization; teacher observations; the measuring and test method; the educational experiment; mathematic and statistical methods of processing and interpreting data; the graphic and table method.

Contents of the experiment: Carrying out the experimental activity on the selected lots of senior lower secondary classes required a rigorous scientific planning of the lessons with

a significant impact on the physical training of the students. To this regard, the goals have been carefully selected, combined, assessed and distributed to a vast array of action systems, which, depending on their specificity, have ensured the expected influence on the combined motor skill level pertaining to every lesson cycle.

As the activity required an extra hour added to the curriculum upon the school council's approval (extension lesson), this aspect leads to the determination of new reference goals. The differentiated projection of the motor ability contents on value lots and distributing the learning units throughout the entire 2007-2008 school year are presented in the following image (img. no. 3). The projection action was carried out in accordance with all the phases presented in the concerned scientific literature (Img. 1.)



Img 1. The educational projection phases

Even if the annual distribution of the lesson systems (cycles) or learning units – regarded as means to elaborate the annual thematic plan – is not mandatory, I

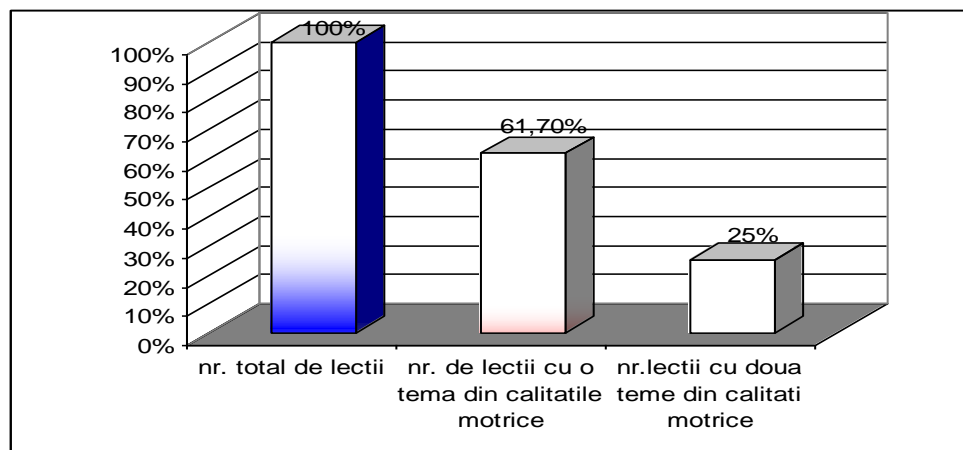
have considered that proceeding to setting up this documents provides a broader and much more precise image regarding the placement and combination manner

of the approached thematic contents approached in the experimental classes. Due to the fact that its form shall be graphical, the latter is also referred to as the annual lesson systems distribution graph, the teacher being given the liberty to place the mandatory learning units (thematic elements) of the syllabus in its structure, on different time intervals, depending on the priority level of the contents, the number of allotted class hours, the students' notebooks, the weather, the equipment etc.

Should the priority be set on motor abilities, the annual plans shall be completely different from those of the witness lots, even in the case of the same number of

allotted class hours. For a better understanding of the importance given to the motor abilities, please read Table 1.

On a detailed analysis of the experimental syllabus, one can notice an increased number of lessons approaching motor abilities, of all the 68 class hours a year, 42 displaying elements of motor ability training, 61.7%, that is, with various lessons presenting two different motor abilities elements (17 lessons, 25% that is.) *Img. 2*



Img. 2. The percentage distribution of the lessons involving motor abilities elements

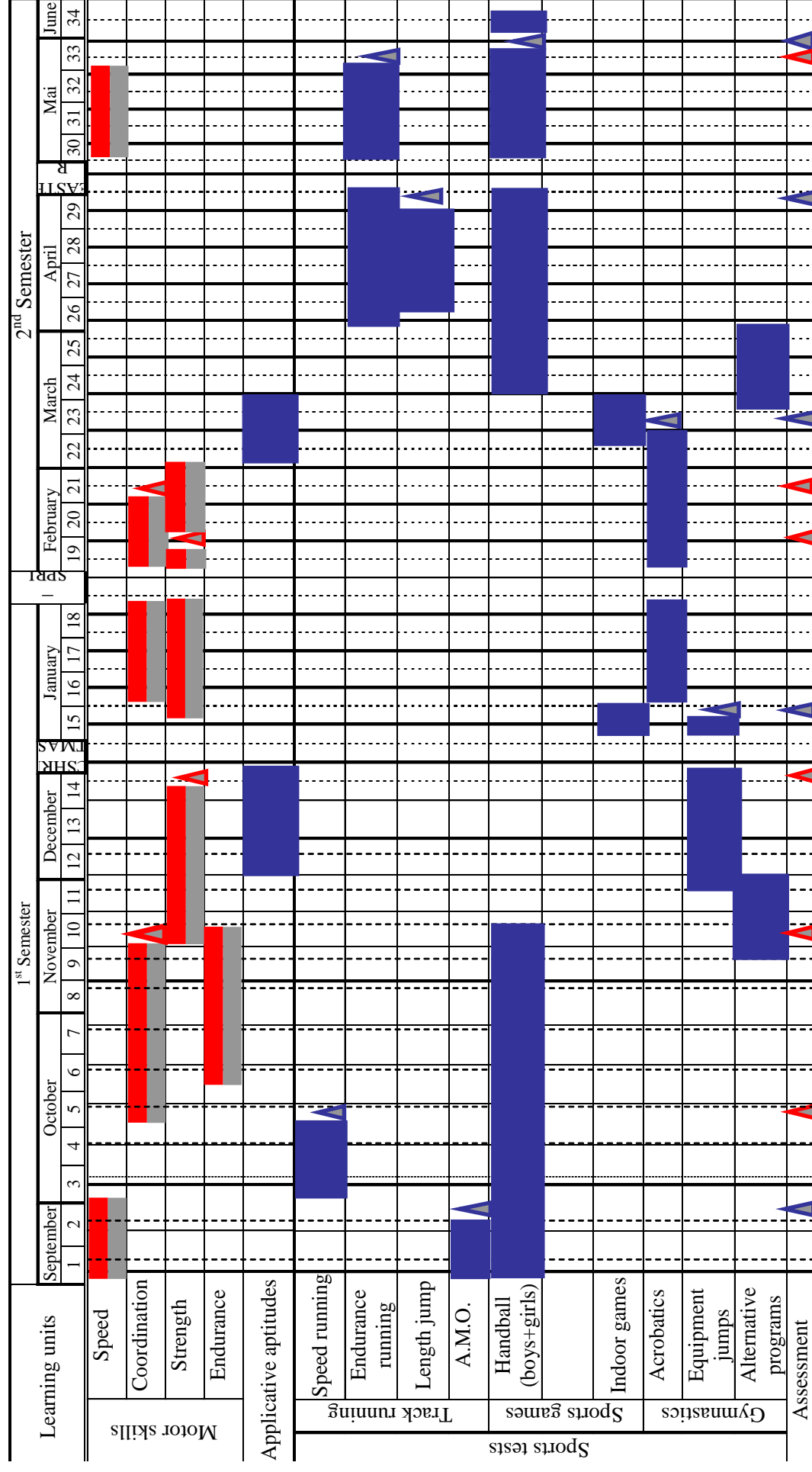
Table 1. The learning facility plan on lesson numbers

Contents	Learning units	Unit number	Lesson No. 1st Sem		Lesson No. 2nd Sem		Grand total/yr
			Main/Secondary		Main/Secondary		
Motor abilities	Speed and combinations	2	-	4	-	6	10
	Coordination and comb.	2	-	10	-	10	20
	Strength and combinations	2	8	-	8	4	20
	Endurance and comb.	1	-	9	-	-	9
Applicative Skills	Climbing-pulling-pushing-dragging-transporting weights etc.	2	-	6	-	4	10
Track skills	Speed running	1	4	-	-	-	4
	Endurance running	1	-	-	14	-	14
	Length jump	1	-	-	6	-	6
	Rounder ball throwing	1	3	-	-	-	3
Sports games	Handball (boys and girls)	2	19	-	20	-	39
Indoor games		2	-	2	-	3	5
Gymnastics	Acrobatics	2	6	-	8	-	14
	Equipment jumps	1	8	-	-	-	8
Alternative programs		2	-	5	-	5	10

With regard to the learning units, based on their importance, complexity and allotted time interval, they can be grouped in main and secondary. The secondary ones generally approach the motor abilities themes, the approached motor skills not being their sole purpose, as there are allotted a more reduced period of time than the motor aptitudes, however placing before or during the thematic cycles of the aptitudes they work with and condition as an execution level (for example: the development of the reaction speed and repetition before

the speed running thematic cycle; the education of the coordinative capacity elements together with the handball themes etc.).

The main thematic cycles are focused on the muscular strength development, due to the fact that the assessment system requires two grades for the determination of the physical education grade point average for this quality, whenever there are two classes a week.



Img 3. Experimental syllabus: Annual distribution of learning units. 8th Grade, 2 hours/week, 2007/2008 school year

The learning unit projection on value lots required a more complex effort than the one made for the frontal activity planning, as varied means or the complication of common means and different exposure were needed, given the fact that the work time is the same for all the groups, as working on motor skills themes does not allow an alternative theme approach on each work group (as in the case of motor aptitudes).

The *speed* has been programmed on two thematic cycles, each approaching different manifestation forms at the beginning and ending of the school year. The first thematic cycle is programmed in September and is comprised of 4 lessons aimed at improving the reaction and execution speed in complex actions. The second thematic cycle has been programmed in May and is comprised of 6 lessons aimed at the improvement of the moving speed in varied conditions, on progressive distances and combined with endurance, these being very important aspects in optimizing the performances of boys (1000 m) and girls (800 m), where an increased lactacyd anaerobic capacity improves the results. Regarding the allotted time, it generally ranges between 7` and 9`, the rest of the time being required for the sports game and endurance running.

The *coordinative capacity* was divided as well in two different juridical systems, one for each semester, as to support the taught sport branches (the sports game and acrobatic gymnastics). The first system is comprised of 10 lessons, aimed at the development of the normal and specific speed, movement precisions, movement combination and transformation, rhythm, space and time orientation, dexterity, applying these skills in variable conditions etc. The allotted time is short (7`-8`), giving the possibility of concentration on the bilateral game and endurance improvement. The second lesson plan also has 10 allotted hours and the same time interval (7`-8`), however it is combined with acrobatic gymnastics and strength themes, all the activities being carried out indoors. The most important coordinative capacity elements are aimed at the body's orientation in space, the segment coordination, movement precision and gymnastics-specific handiness, which also requires a good control and equilibrium, together with a rational combination of acrobatic movements. The preoccupations concerning the development of *strength* have been concentrated on different segments and muscle groups, each tested on the two thematic cycles (inferior and superior limbs for the first one and back and abdomen for the last one). Moreover, at the end of the second cycle, there are four lessons educating endurance and strength using the circuit work method, aimed at training and working with all the muscle groups.

In the first semester, a single lesson cycles was allotted for *endurance*, being grouped with the coordination themes and sports games. The approached manifestation forms are the aerobic, mixed and specific coordinated cardio-respiratory endurance. The same interest shall be maintained throughout the second semester with regard to the cycles allotted for the endurance running test, which is to assess the results of the training at the end of May. While the lower level lots are more focused on endurance and aerobic resistance,

the medium level lots are focused on mixed resistance and the advanced groups can approach anaerobic-lactacyd topics.

Conclusions and proposals:

The lower secondary school curricula disposes of enough motor ability related content – manifestations and combinations in the 8th grade. The only impediment could be considered to be the reduction of physical training classes in the 8th grade (to a maximum of two), which leads to real problems in terms of the effective motor ability training through frontal ability. Due to the fact that the school curricula ensures the combination of the *concentric* features (retaking certain motor ability content already gone through in previous years) with *linear* ones (approaching new elements of the 8th grade combined motor abilities), the gradual planning based on theme complexity is sustained, thus allowing a close surveillance of the processes successfully completed or yet to be finished.

Following the preliminary experiment, the effort capacity's evolution has been found to be reduced, this being reflected by the motor ability results obtained at the control tests. In order to fight this unwanted situation, the differentiated approach of the contents on value lots is the only effective solution.

The statistical calculus has demonstrated that the differences obtained between the experimental and witness lots are quite significant, corresponding to the following significance points ($P < 0.05$; $P < 0.01$; $P < 0.001$). The correlations of the control tests have all proves to be positive ($r > 0.361$) and even strong ($r > 0.618$), showing the inter-dependence and transfer of motor abilities throughout the entire school year.

Using standardized means on the same parameters does not lead to favorable effects for all the students, a differentiated exposure on value groups and even changing the action systems, playing a stimulating role for students. Based on the main element of the effort, structures with various effects are used: running allows both the education of speed and endurance, depending on the chosen distances, the intensity of the effort and the value of the breaks generally vary from one group o the other.

The effort programming is carried out in close relation with the actual bio-physiologic motor potential of the lots and only based on those means perfectly managed by the students as execution techniques, considering the intense effort the body has to make during the execution of the motor ability training themes and the increased chances of producing accidents whenever the rules are not followed.

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Tehnologia elaborării programei experimentale vizând dezvoltarea calităților motrice combinate în cadrul lecțiilor de educație fizică din învățământul gimnazial (clasa a 8-a)

Rezumat: Planificarea eforturilor fizice pe diferite etape (sisteme de lecții), cu modificarea permanentă a principalilor parametri ai efortului fizic, va conduce la solicitări variate asupra organismului, concretizate în adaptări succesive la stimuli diferiți ca grad de solicitare, instalându-se adaptarea de lungă durată, existând în acest caz o activitate cumulată a funcțiilor și sistemelor organismului (efect sinergetic), ce permite învingerea sarcinilor programate. Rezultatele superioare la probele de pregătire fizică în clasele experimentale sunt datorate și volumului de lucru ridicat (din cele 68 de lecții anuale, 42 au teme din aptitudini motrice, deci 61,7% din total), în multe situații fiind întâlnite și două teme din aptitudini diferite în aceeași lecție.

Cuvinte cheie: planificare, unități de învățare, accesibilitate, aptitudini motrice combinate, dozare orientativă și diferențiată, efort fizic, sistem de lecții.

Technologie de l'élaboration du curriculum expérimental visant le développement des qualités motrices combinées pendant les leçons d'éducation physique pour la classe de 8^{ème}

Résumé: La planification des efforts physiques sur différentes étapes (systèmes de leçons), avec la modification permanente des paramètres principaux de l'effort physique, mènera à des sollicitations variées sur l'organisme, concrétisées dans des adaptations successives à de divers stimulus en tant que degré de sollicitation; on constate l'adaptation de longue durée et une activité cumulée des fonctions et des systèmes de l'organisme (l'effet synergétique), qui permettent la réalisation des tâches programmées. Les résultats supérieurs aux épreuves de préparation physique dans les classes expérimentales sont dus aussi au travail assidu (des 68 leçons annuelles, 42 traitent les aptitudes motrices, donc 61,7% du total), donc dans beaucoup de cas on rencontre deux thèmes traitant des aptitudes différentes dans la même leçon.

Mots-clés: planification, unités d'apprentissage, accessibilité, aptitudes motrices combinées, dosage approximatif et différencié, effort physique, système de leçons.

EDUCATIONAL VALENCES OF THEORETICAL KNOWLEDGE PARTICULAR FOR THE BASIC COURSE OF BASCHETBAL

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Summary: The information used in this article underlines the importance of theoretical knowledge evaluation and their interconnection with the practical ones, and methods within the course of "Basketball" according to the present requirements; all because the practical-theoretical project in the present analytical programs is not enough for the learning and consolidation of technical and tactical foundations specific to "basketball".

Key words: theoretical training, the game field, regulations, evaluation, students, basketball.

Introduction

Regarding the volume assimilation of theoretical knowledge, new tendencies are towards learning in a formative quality.

The theoretical knowledge is useless if they are just a reception of the "Basketball" game, without their applicability within the specific motive skills and competences, building the game sequences, compliance of regulations which are permanently changing. (C. Hânsa, 2004, Moanță A., 2005, Colibaba, E.D, 2007, Rață, G., 2008, Ciocoiu D.L, 2009, etc.).

Hypothesis

If training the students at "Basketball" basic course is about their involvement in the learning process

and the interconnection between theoretical, practical and methodical knowledge the efficiency is noticeable in the implementation of specific techniques, building the game sequences and compliance of regulations.

Research tasks

Assessing the level of theoretical knowledge of students in the basic course of "Basketball".

The research methods were: specialized study references, analysis of programming documents, planning, accounting and control approached by the syllabus of Basketball course, the teaching experiment, the statistical-mathematical method, the graphical and tabular method.

Organizing research

Due to the fact that the present research is an extract from an ample experimental study, completed with the elaboration of a syllabus to efficient the technical training of students for the present conditions (the Bologna plan), among the assessments made we considered necessary to check the students theoretically.

Thus the assessed thematic content had in its structure questions about the ground rules of the game, regulations and also technical and tactical notions. The data presented in this article is about the assessed knowledge regarding the general aspects of the game and regulation.

The analysis of the evaluated content sets the distance which separates its objectives stipulated in the syllabus, and in the planning documentation. Summative

assessment was carried out through numerical scoring at each of the two themes from the exam topics, which were identical for both groups, with the single difference of time and training.

Thus, the control group (n=42) has studied the units of the basic course "Basketball" according to the old (traditional) curriculum in liquidation (2005-2006) and the experiment group (n=45) according to our curriculum.

As a method for evaluating the theoretical knowledge it has been used the oral examination based on the conversation between teachers (evaluative experts) and students.

The research result

Presented in a synthetic way the experimental results are (table 1):

Table 1
A comparison of the average marks obtained in the theory test at "Basketball" course between the experiment group (n=45) and the control group (n=42)

Nr. crt.	The assessed content issues	Sample	Calculate statistical indicators		
			$\bar{X} \pm m$	t	p
1.	Generalities on the playing(game) field	E M	7,71 \pm 0,11 7,28 \pm 0,12	2,64	<0,05
2.	Regulation notions	E M	7,80 \pm 0,13 7,38 \pm 0,14	2,27	<0,01

t-tab.=1,99 at the significance threshold P-0,05;
t-tab.=2,64, P-0,01; t-tab.=3,42, P-0,001

At the thematic set evaluation from "Generalities on the playing field", the arithmetic mean of marks obtained by the students of the experiment group is (7,71) as for the control group which has (7,28) with a difference of (0, 43). The data shows that the students

from the experiment group have assimilated theoretical knowledge about the historic, evolution, theory and game methods of basketball at a superior level, shown in table 1.

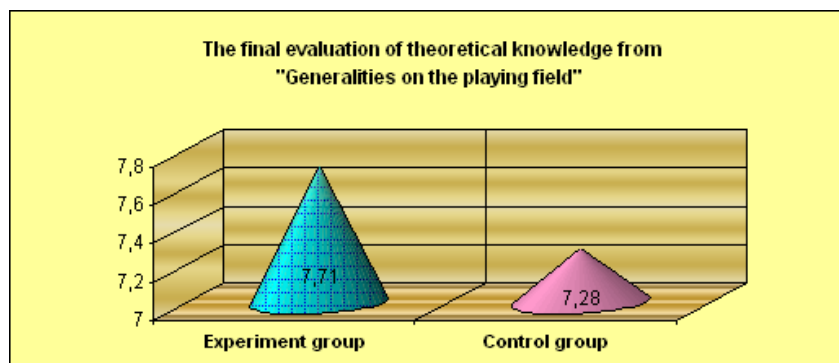


Figure 1. Dynamic comparison between experiment and control groups at the final assessment of theoretical knowledge from "Generalities on the playing field" at "Basketball" basic course

The "p" value from the two final tests of the experiment and control group shows an important

difference from a statistically point of view (t=2,64; p<0,05).

Assessment of theoretical knowledge of the content concerning "Regulation notions" shows a difference between means of (0,78) for the experiment group that has (7,80) and the control one has (7,38),

results representing the highest average recorded by this (figure 2). The positive difference for the experiment group shows that students enhanced specific notions regarding the game regulation and its organization.

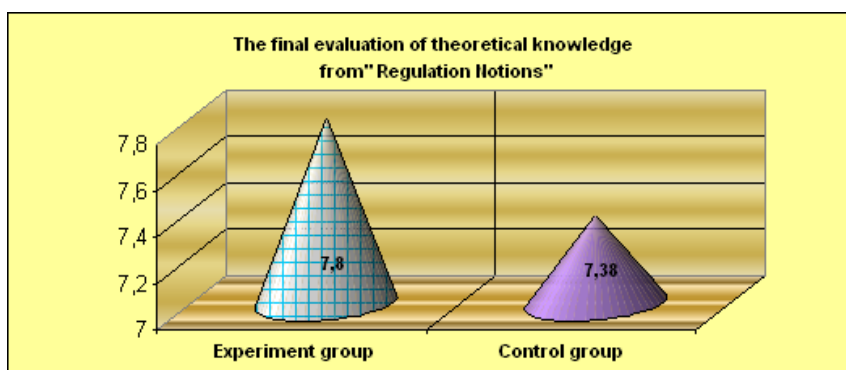


Figure 2. Dynamic comparison between experiment and control groups at the final evaluation of theoretical knowledge from "Regulation notions", basic course of "Basketball"

Theoretical knowledge about the regulation has achieved a significant progress in terms of statistical analysis of final average of the two groups ($t=2,27$; $p<0,05$). The data which shows the average for the final scores for the experiment group are (8,03) and for the control one (7,27), with a difference of (0,76).

Conclusions

- The positive results recorded by the students of the experiment group (7,71 - generalities on the playing field and 7,9 – regulation notions) shows a good level of the quality-quantity reference regarding the acquiring of information on general theoretical issues and rules of the game as for the control group (7,28 - generalities on the playing field, and 7,38 - regulation notions).
- The results recorded for the experimental group argues the educational valences of the theoretical knowledge and so the functionality of our curriculum, favors their bond with the practical activity of the game, exceeds the number of low hours existing in the current curriculum.

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Valențe instructiv-educative ale cunoștințelor
teoretice specifice în cadrul cursului de bază la
disciplina Baschet

Rezumat: Datele analizate în prezentul articol subliniază importanța evaluării cunoștințelor teoretice și interconexiunea acestora cu cele practice și metodice în cadrul cursului de bază la disciplina „Baschet” conform cerințelor actuale, datorită faptului că raportul teorie-practică din cadrul programelor analitice actuale este insuficient pentru învățarea și consolidarea fundamentalelor tehnico-tactice specifice jocului de baschet.

Cuvinte cheie: pregătire teoretică, domeniul de joc, regulament, evaluare, studenți, baschet.

Signification des connaissances théoriques de

l'éducation spécifique pour le cours de « Basket-ball »

Résumé: Les données analysées dans cet article soulignent l'importance d'évaluer les connaissances théoriques et leur interconnexion avec ceux pratiques et méthodiques dans le cours de « basket-ball » selon les exigences actuelles, parce que le rapport entre théorie et pratique dans les programmes d'enseignement est insuffisant pour apprendre et consolider les fondations techniques et tactiques pour le jeu de basket-ball.

Mots clés: préparation théorique, le domaine de jeu, règlement, évaluation, des étudiants, basket-ball.

THE DYNAMICS OF MOTOR INDEXES AT STRENGTH TESTS OF THE EXPERIMENTAL AND WITNESS LOT STUDENTS, BASED ON DIFFERENTIATED PHYSICAL EFFORT EXPOSURE (8TH GRADE, BOYS)

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Abstract: *The strength training was carried out on different muscle groups and in different semesters, on 24 themes equally divided between the two semesters, strongly connected to the motor skills the training aims to teach: acrobatic gymnastics dynamic and static elements, as well as active jumps from training equipment. As a motor ability, involved in effectively carrying out the required moves, the development is focused on the less active muscle groups and consequently the negative aspects are bound to influence the manifestation of all the other skills it strongly influences.*

Key words: *accessibility, endurance tests, effort charge, combined motor abilities, differentiated level, physical effort parameters, lesson plans.*

Introduction

The education process of motor abilities in lower-secondary education is carefully considered by the majority of specialists, due to the fact that it ensures the effectiveness of sports activities and greatly improves the physiologic potential of students at puberty. Physical education in school aims at inducing a significant impact on education, this being one of the premises for future excellent sports results – where several manifestation patterns and combinations are required – thus preventing the restriction of activities induced by a timely specialization, multilateral specialization and individual aptitudes. This way, the premises of identifying and valuing sport talent are ensured, acting simultaneously for the formation of a varied motor skill array, as a result of the varied contents of school syllabi.

The *research hypothesis* is based on the assumption according to which the development of motor abilities in lower secondary education, based on a differentiated exposure to effort, will contribute to the improvement of 8th grade specific physical endurance objectives, and also the improvement of the lower secondary student physical profile.

The *research objectives*: determining the development level of the strength motor ability, its manifestation patterns and combinations in lower secondary syllabi; improving the educational process based on different physical effort levels and scientific argumentation of the process' effectiveness, oriented towards the development of this motor ability during the senior year of the lower secondary education; the content planning (means, methods), aiming at improving the motor skills through a differentiated exposure to physical effort.

Employed research means: the analysis and specialized scientific literature generalization;

teacher observations; the measuring and test method; the educational experiment; mathematic and statistical methods of processing and interpreting data; the graphic and table method.

Contents of the experiment, results and their interpretation. As a solution, I have considered that, following the results of the preliminary tests, *the boys* are to be distributed in adequate value groups (most of them displaying a medium and high level of strength and endurance, with some exceptions - those describing weak levels of coordinating skills). Applying the differentiated effort level exposure to the value groups has focused on the data provided by all the three recording manners (initial, current and final), only this way the groups could have been formed based on a correct interpretation of the considered criteria and the contents of the syllabus be followed properly, ensuring every student a chance to progress.

The training on value groups has been carried out on experimental classes, which has lead to reaching various advantages for the motor skills related themes: a varied effort exposure from one group to another, based on different or joined training, with an increased number of repetitions; a better functional motor density should the activities be carried out as planned; good social and group relations; ensuring a high level of autonomy; benefiting to the full of the existing educational resources.

The experimental activities carried out on the selected lots of senior lower secondary classes required a rigorous scientific planning of the lessons with a significant impact on the physical training of the students. To this regard, the goals have been carefully selected, combined, assessed and distributed to a vast array of action systems, which, depending on their specificity, have ensured

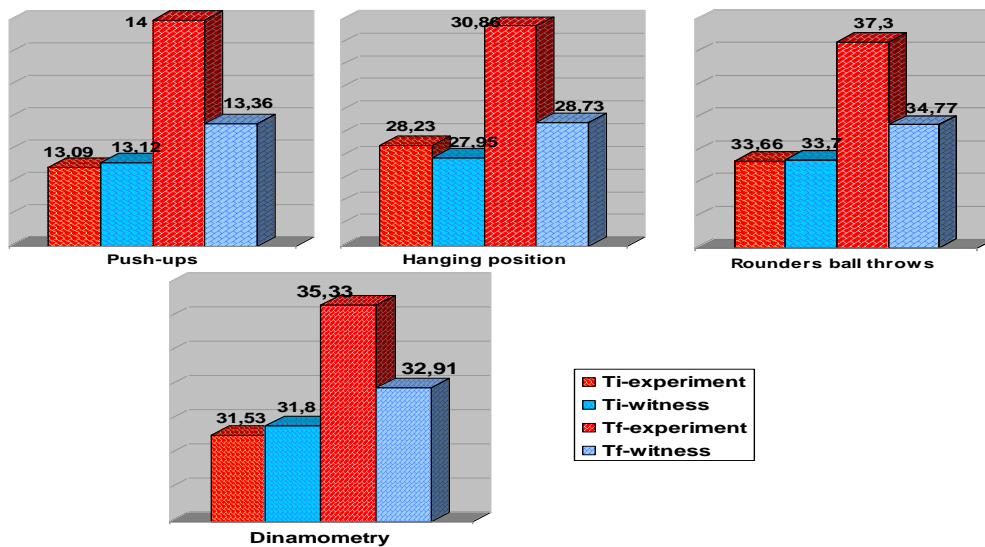
the expected influence on the combined motor skill level pertaining to every lesson cycle.

The control tests used in determining the general physical training level are the same as those used during the experiment, an aspect which allowed the evolution of the strength dynamics during the strength training, with positive results on the motor abilities of the 8th grade students and especially on their progress. The results obtained at the initial and final tests allowed data comparisons and the identification of progress rates, differentiated, on witness and experimental lots, for both genders.

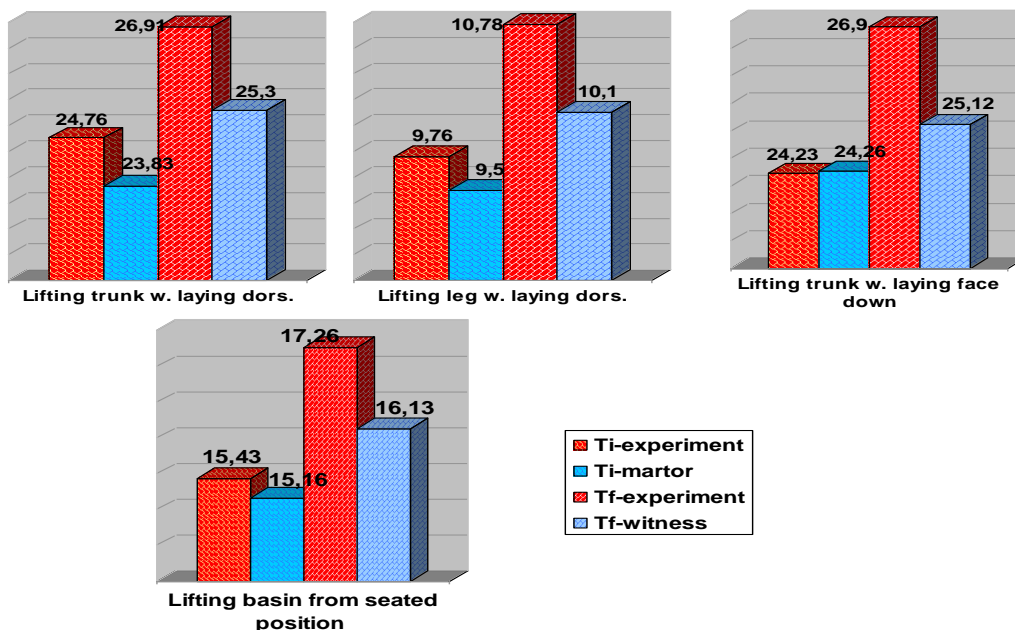
The data measuring and recording has been carried out in standard conditions for both sample lots and was aimed at highlighting the evolution of the two lots' dynamics, with regard to the results obtained at the applied physical tests lot. The statistical interpretation of the results was followed

by a comparison and answered the questions related to the relevance of the difference between initial and final tests, on each lot (either a witness or experimental one). The results obtained at the 10 strength tests (separately or in groups) are detailed below and point out the influence and importance of the experimental syllabus.

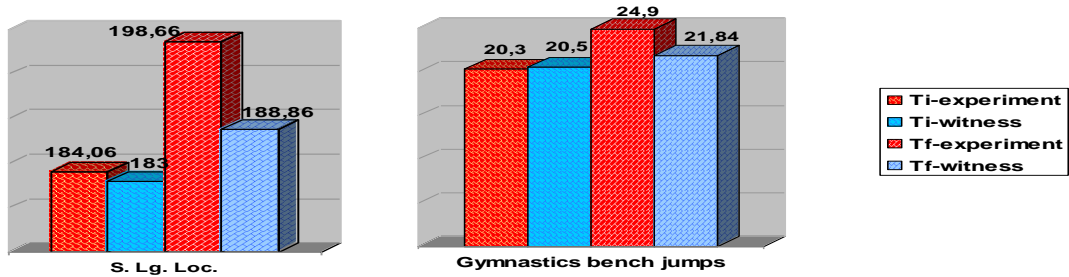
The activity proved to be much more efficient when the group collaboration relations were superior and when the students were well aware of the proposed exercising means. Strong group emulation was noticed, each of the students trying not to get behind the rest of the group and in the mean time to get ahead through personal effort, all because of the accessibility of the programmed contents. The recorded results and the significance of the disparities between the lots are presented in the following graphs and tables:



Img.1. The initial and final results of the witness and experimental groups at the superior limbs (boys) strength tests



Img.2. The initial and final results of the experimental and witness groups at the tests focusing on the back and abdomen muscles' strength (boys)



Img.3. The initial and final results of the initial and experimental groups at the tests focusing on the strength of the inferior limbs (boys)

Table 1. The significance in the same lots – Boys (strength tests dynamics)

No	Test name	Witness lot n=30				Expriment lot n=30			
		Initial test	Final test	t	P	Initial test	Final test	t	P
		$\bar{X} \pm m$	$\bar{X} \pm m$			$\bar{X} \pm m$	$\bar{X} \pm m$		
1	Push-ups (rep. n.)	13,12±0,27	13,36±0,23	0,85	>0,05	13,09±0,24	14,00±0,20	3,63	<0,01
2	Hanging pos (sec)	27,95±0,77	28,73±0,71	0,93	>0,05	28,23±0,82	30,86±0,70	3,06	<0,01
3	Rounders ball throws (m)	33,70±0,96	34,77±0,92	1,01	>0,05	33,66±0,98	37,30±0,83	3,53	<0,01
4	Dinamometry (kg/f)	31,80±0,92	32,91±0,88	1,08	>0,05	31,53±0,91	35,33±0,80	3,91	<0,001
5	Lifting trunk w. laying dors. (rep. n.)	23,83±0,66	25,30±0,60	2,07	<0,05	24,76±0,68	26,91±0,53	3,11	<0,01
6	Lifting leg w. laying dors. (rep. n.)	9,50±0,25	10,10±0,24	2,09	<0,05	9,76±0,27	10,78±0,23	3,64	<0,01
7	Lifting trunk w. laying face down (rep. n.)	24,26±0,66	25,12±0,63	1,17	>0,05	24,23±0,65	26,90±0,58	3,86	<0,001
8	Lifting basin from seated position (rep. n.)	15,16±0,42	16,13±0,41	2,06	<0,05	15,43±0,43	17,26±0,39	3,97	<0,001
9	Length jump from standing pos. (cm.)	183,00±3,58	188,86±3,39	1,48	>0,05	184,06±3,56	198,66±3,08	3,87	<0,001
10	Gymnastics bench jumps (rep. n.)	20,50±1,17	21,84±1,08	1,05	>0,05	20,30±1,17	24,90±0,99	3,74	<0,001

NB: n=30 P - 0,05 0,01 0,001
t = 2,045 2,756 3,659

Table 2. The significance of the difference between the initial and final test on different lots – Boys (strength tests)

No	Test name	Initial test				Final test			
		Witness lot n=30	Experiment lot n=30	t	P	Witness lot n=30	Experiment lot n=30	t	P
		$\bar{X} \pm m$	$\bar{X} \pm m$			$\bar{X} \pm m$	$\bar{X} \pm m$		
1	Push-ups (rep. n.)	13,12±0,27	13,09±0,24	0,08	>0,05	13,36±0,23	14,00±0,20	2,13	<0,05
2	Hanging pos (sec)	27,95±0,77	28,23±0,82	0,25	>0,05	28,73±0,71	30,86±0,70	2,13	<0,05
3	Rounders ball throws (m)	33,70±0,96	33,66±0,98	0,03	>0,05	34,77±0,92	37,30±0,83	2,04	<0,05
4	Dinamometry (kg/f)	31,80±0,92	31,53±0,91	0,21	>0,05	32,91±0,88	35,33±0,80	2,03	<0,05
5	Lifting trunk w. laying dors. (rep. n.)	23,83±0,66	24,76±0,68	0,99	>0,05	25,30±0,60	26,91±0,53	2,01	<0,05
6	Lifting leg w. laying dors. (rep. n.)	9,50±0,25	9,76±0,27	0,72	>0,05	10,10±0,24	10,78±0,23	2,06	<0,05
7	Lifting trunk w. laying face down (rep. n.)	24,26±0,66	24,23±0,65	0,03	>0,05	25,12±0,63	26,90±0,58	2,09	<0,05
8	Lifting basin from seated position (rep. n.)	15,16±0,42	15,43±0,43	0,45	>0,05	16,13±0,41	17,26±0,39	2,02	<0,05
9	Length jump from standing pos. (cm.)	183,00±3,58	184,06±3,56	0,21	>0,05	188,86±3,39	198,66±3,08	2,14	<0,05
10	Gymnastics bench jumps (rep. n.)	20,50±1,17	20,30±1,17	0,12	>0,05	21,84±1,08	24,90±0,99	2,09	<0,05

NB: n=30 P - 0,05 0,01 0,001
t = 2,002 2,664 3,50

Conclusions and suggestions

The implementation of the specially created syllabus on the experimental lot and the results interpretation of all the control tests have lead to the conclusion that the motor abilities are greatly improved. The performance increase at the physical tests have not occurred by chance, the differences between the initial and final means of the witness and experimental lots being able to dispel all doubt about the positive effects of the experimental syllabus, as it can be noticed from the interpretation of the statistical calculus. The differentiated effort exposure of each lot has lead to the total reduction of the negative situations which might have occurred during frontal exercises, allowing the weaker students to benefit from reduced effort levels, in accordance with the their real potential and the stronger students to further improve their abilities through medium-level effort solicitations.

The employed array of tests used for the determination of the muscular strength development is extremely diverse, specially created so that it encompasses as many manifestation and combination forms: dynamic, static, speed strength, acceleration potential, setting off, throwing exercises, endurance, endurance-strength, short, medium and long term muscular endurance etc.

The students have to adjust to the determination and interpretation of the cardiac frequency values, as to be able to control and supervise the solicitation degree of the human body and at the same time, to prevent abnormally high levels of effort exposure. Shortening the pauses in order to increase the physical effort's intensity in the low and medium level lots is strongly not advised, as accidents may occur.

The distribution of the motor skills related themes throughout the school year shall be correlated with the distribution of those of motor aptitudes, as to

support and accelerate the process of teaching these aspects (coordination, speed and endurance with the themes from the technical and tactic structures of the sports game, strength with jumps and aerobics). There can also be two different themes of the motors skills, followed by one of the aptitudes. Example: coordination, aerobics, strength.

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Dinamica indicatorilor motrici în probele de forță la elevii grupelor martor și experiment prin dozarea diferențiată a efortului fizic (clasa a 8-a baieți)

Rezumat: Educarea forței s-a realizat pe cuplaje de grupe musculare distincte și pe semestre diferite, fiind alocate 24 de teme împărțite echilibrat pe cele 2 semestre la interior, în strânsă legătură cu deprinderile motrice pe care le sprijină: săriturile la aparate, elementele statice și dinamice din gimnastica acrobatică. Fiind o aptitudine motrică implicată puternic în realizarea eficientă a tuturor mișcărilor, dezvoltarea va deveni prioritară pentru grupele musculare deficitare, altfel efectele

negative se vor răsfrânge și asupra manifestării la nivelul tuturor celorlalte aptitudini pe care le influențează puternic.

Cuvinte cheie: accesibilitate, probe de forță, încărcătură, aptitudini motrice combinate, dozare diferențiată, parametrii efortului fizic, sisteme de lecții.

Dynamique des indicateurs motrices dans les épreuves de force chez les élèves des groupes témoin et expérimentation par le dosage différencié de l'effort physique (8^{ème} classe, garçons)

Résumé: L'éducation de la force a été réalisée sur différents groupes musculaires et pendant des semestres différents; on a affecté 24 sujets qui ont été repartis de manière équilibrée pendant les deux semestres, en étroite relation avec les habitudes motrices qu'ils soutiennent: les sauts aux appareils, les éléments statiques et dynamiques de la gymnastique acrobatique. Etant une aptitude motrice fortement impliquée dans la réalisation efficace de tous les mouvements, le développement deviendra prioritaire pour les groupes musculaires déficitaires; autrement, les effets négatifs auront aussi des conséquences dans la manifestation au niveau de toutes les autres aptitudes qu'il influence.

Mots-clés: accessibilité, épreuves de force, charge, aptitudes motrices combinées, dosage différencié, paramètres de l'effort physique, systèmes de leçons.

APPLICATION OF DIFFERENTIATION IN THE TREATMENT OF LESSON OF PHYSICAL EDUCATION IN SECONDARY LEVEL MEANT TO BUILD MOTOR SKILLS AND ABILITIES FOR SPECIFIC GAME AND SPORTS

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Abstract: This paper presents an efficient approach to physical education teaching and educational process in terms of differential treatment in the idea of human potential improvement and taking into account individual particularities.

Key words: differential treatment, motor skills for specific sports games, physical education lesson, improvement.

Introduction

The school is required to prepare the people for present and especially for future, people capable of creative tasks, able to adapt to new conditions. In addition to the "arming" students with the basics of culture and , the school is called upon to develop their intellectual skills, the flexibility, the independence and the creativity of thought, physical and mental strengthening to cope with growing demands. The forming of such

virtues implies the improvement of necessary forms of transmission and assimilation of knowledge, escape from the typical normal lessons, finding new forms of activity allowing expression of independence, spirit of cooperation, initiative, etc., qualities required for the future development of society.

One of these educational requirements is the treatment of differentiated teaching, very important and complex, involving a great social

responsibility as the educational process, including physical education, must have maximum efficiency at all structural scales of education - courses and classes. How to get maximum efficiency when working with 25-30 students? First answer given by psychologists and teachers or theorists then, is one: by the characteristics of each component part of the group of students. Compliance with these "individual" features is the essence of a fundamental principle in training and education of students: the principle of accessibility. So, ultimately, differential treatment means "individualization".

Even if the teams consist of students on the same age - based criterion – the chronological age - it is very clear for all professionals that they are very heterogeneous. This heterogeneity is given, firstly, by the sex features at the same level of chronological age, secondly, a number of biological features (level of physical development) and motor features (level of motor capacity and motor skills and abilities – as implementation volume) are present (and immediately obvious for physical education). Psychological particularities (as attitudes, interests, skills, motivation, temperament, etc.) are also of great importance.

Educational process, including physical education, must have a maximum efficiency across all educational cycles and classes. How to get maximum efficiency when working with teams consisting of 25-30 students each? First answer given by psychologists and then by teachers is one: by learning and observing the particularities of each component of the group of students of "the class" in which the process takes place during the lesson. Compliance with these "individual" features is the essence of a fundamental principle in training and education of students: the principle of accessibility.

So ultimately, the differential treatment means "individuation" (not to be confused with "individual work" likely to be present in the context of non-differentiated activities).

Where classes (teams) are based on the same criterion of the same "chronological age", they are very heterogeneous. This heterogeneity is given, firstly, by sex features at the level of the same chronological age, secondly, a number of biological features (level of physical development) and motor features (level of motor capacity and motor skills and abilities – as implementation volume) are present (and immediately obvious for physical education). Psychological particularities (as attitudes, interests, skills, motivation, temperament, etc.) are also of great importance.

Differential treatment in physical education becomes a necessity especially in the "links", "moments", "phases", "steps", etc. during which the themes and objectives proposed by sports training lesson has to be permanently done, the

achievement of peak performance being impossible without it.

Differential treatment concerns several aspects: objectives, contents, organizational forms of practicing, teaching methodology (including assessment), etc. Through it, both over-and sub-loading are avoided. Differentiated treatment, unlike other methodological guidelines, should be visible not only during practicing but also through the methods by which the teacher / coach is sending the "information" (verbal and intuitive methods).

Due to the large number of students in a class, the physical education cannot be done differently, depending on the particularities of each student. Therefore, we work frequently with homogeneous groups. These groups (relatively uniform) are more correctly called "groups of biomotor value level". Depending on sex, (mixed classes) can form two or three value groups. They are determined by measurements and tests at the beginning of the school year, and points for quantitative or qualitative constant level are awarded.

Groups must be "dynamic", "in motion" within the same lesson. Some students belong to a group I as regards the motion capability, but go in the group II (or III) for some motor skills and / or abilities. Or conversely, they are in group I for some motor skills and / or abilities and go in group II (or III) at a motor capability (or all motor capabilities). So, the groups are "opened". They can be "closed" (remain unchanged during the lesson and the whole school year) if an exploratory research is performed; in this case they change depending on the "general" score gained by each student.

The composition of groups at the beginning of the school year, "bring" the score and the level of physical development of each student. This score is not taken into account if the groups change throughout the lesson, depending on the topics covered. The activity on the "value group" is the most frequently performed only in some moments of links or physical education class (especially during the "thematic" lessons), but is not excluded during the whole lesson. Even in the context of "front training" belonging to the "unthematic" link of physical education class, a differentiated treatment can be carried out in terms of speed of execution, number of repetitions, the amplitude and even the structure of motor acts or actions, etc.

The establishment of each group "leader" is of great importance during the work on "value groups", which can and should be a reliable support for the teacher or coach.

In a certain sense, the differential treatment in larger classes may relate to compliance with the "options" of students for practicing some sports branches.

Hypothesis

It was assumed that the practical application of educational technology in the differentiated treatment of physical education class themed on sports games (volleyball – girls, basketball - boys) will enhance the motor skills and abilities specific to sports game, which will be reflected through: improving the quality of the assimilation of teaching contents of the curriculum for the physical education and sports.

Subjects

The experiment took place in the National College "Al. Ioan Cuza" in Galati, and used two groups of 62 students comprised in the control group, respectively 61 students comprised in the experimental group (two IXth classes for each group) over 44 game themed lessons.

Technical and tactical processes of the curriculum for high school were tested for specific motor skills and bilateral games.

Research methods

In order to examine the specific complex aspects of the nature and content of activity in physical education classes in the high school, the following research methods were used:

observation, bibliographic research method, testing method and the statistical and mathematical method which highlights the effects of a new methodological approach on the applicability of differential treatment in physical education lesson.

Results and discussion

In order to apply the educational strategy of the differentiated treatment, after the initial test, we have formed groups for beginners and advanced students, boys and girls, these groups being closed and unchanged during the whole year.

Figures 1 and 2 shows that large differences have been noted between the initial and final tests both at the control group and the experimental group because not all subjects of groups were aware of the technical and tactical procedures tested in basketball and football games, but having knowledge on other sports games. But in the final testing, the experimental group had much better average grades compared with the control group, both girls and boys due to the teaching strategies used.

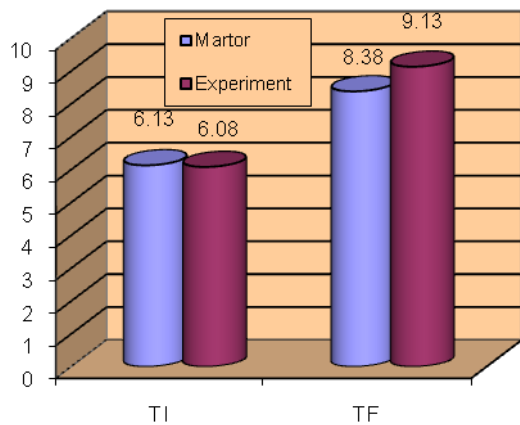


Fig. 1 Test results of technical and tactical procedures (girls)

During the initial testing, the girls have achieved an average of 6.30 in the control group and 6.16 in the experimental group. The final test is illustrated in Figure 3 that the control group gained an average of 8.73 compared to the experimental group that received an average of 9.26, significantly above the average of the control group.

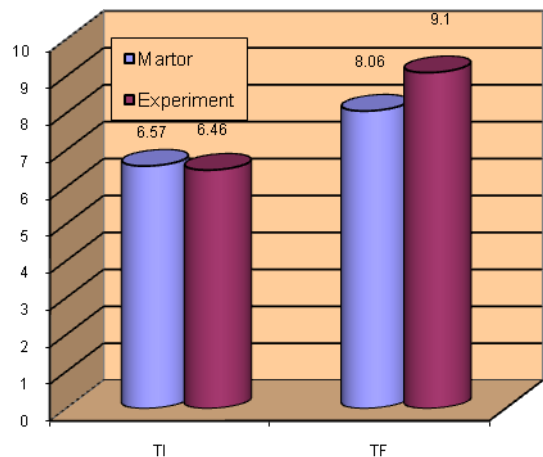


Fig. 2 Test results of technical and tactical procedures (boys)

In this test, the boys got an average of 6.68 in the control group and 6.54 in the experimental group at initial testing and an average of 8.49 for control group and 9.40 for experimental group during the final testing (Figure 4).

As in the other tests, we have noted that the experimental group obtained an average above the average of the control group as a result of the application of the proposed teaching strategy.

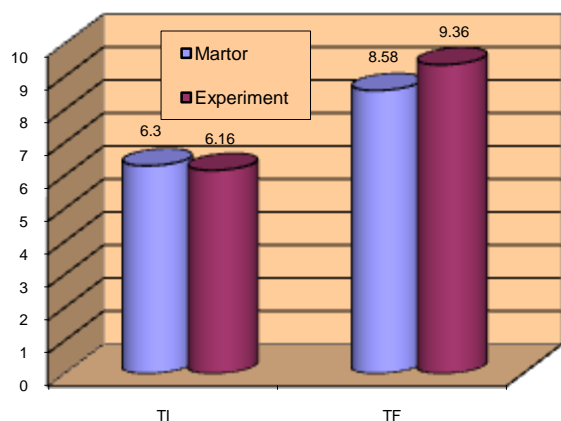


Fig. 3 Test results of the bilateral game (girls)

Work carried out in the educational process with secondary school students seeks the harmonious development of the younger generation, basic motor skills and abilities or specific for different sports branches.

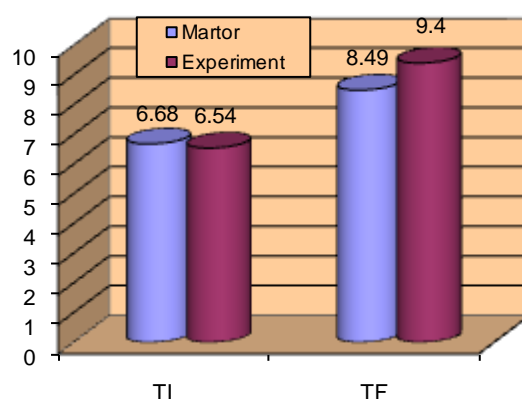


Fig. 4 Test results of the bilateral game (boys)

A good foundation for any motor activity is given by a high degree of motor training and represents a good premise for a superior approach to any motor skills.

Table 1
Statistical significance for specific motor skills of sports at control and experiment groups – boys and girls

TESTS COMPRISED IN THE NATIONAL EVALUATION SYSTEM	STUDENT TEST (girls) $t_{cr}=1.665$ (N=78)		STUDENT TEST (boys) $t_{cr}=1.6811$ (N=45)	
	TI	TF	TI	TF
Technical procedures (marks)	0.14 P > 0.05	4.69 P < 0.001	0.20 P > 0.05	6.50 P < 0.001
Sports game (marks)	0.35 P > 0.05	5.86 P < 0.001	0.24 P > 0.05	5.84 P < 0.001

As shown in the charts above, the initial tests conducted both in the control group and the experimental group, in the early stage of high school, the resources of students enrolled in ninth grade is balanced in most tests, both groups registering very closed results. According to Table 1, the final test demonstrates that the experimental group that used didactic strategies related to sports games-specific motor skills during the school year has made a significant progress, compared with the control group that used its own planning, resources and organization methods.

Conclusions

The study demonstrates that the utilization of contemporary teaching strategies as content elements in the physical education classes at the secondary stage leads to a better achievement of the objectives of physical education class and its optimization. In order to successfully organize and conduct the lessons for which we use teaching strategies, it is necessary to take into account the following:

The selection of teaching strategies used in physical education lesson is conducted by physical education teacher in order to shape the content of the activity in the educational process and improving / optimizing the physical education class.

Using this strategy meant to enhance motor skills and skills specific sports game should take into account the training level of students, the material resources and the choices of students for playing a sports game. The weight factor of the application of such didactic strategy shall be determined at all times of the lesson, a lesson cycle, semester or entire school year.

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Aplicarea tratării diferențiate în lecția de educație fizică din treapta liceală pentru consolidarea deprinderilor și priceprilor motrice specifice jocului sportiv

Rezumat: Această lucrare prezintă o abordare de eficientizare a procesului instructiv educativ la educație fizică din punct de vedere a tratării diferențiate în ideea valorificării potențialului uman și luarea în considerare a particularităților individuale.

Cuvinte cheie: tratare diferențiată, deprinderi motrice specifice jocului sportiv, lecția de educație fizică, consolidare

La différenciation dans la cours d'application de traitement de l'éducation physique secondaire renforcement des compétences niveau de commande priceprilor jeu spécifique et sports

Résumé: Cet article présente une approche efficace pour enseigner l'éducation physique processus d'apprentissage en termes de différence de traitement dans l'idée du potentiel humain pour la récupération et de prendre en compte les particularités individuelles.

Mots-clés: Différence de traitement, de jouer les compétences spécifiques du sport automobile, la leçon d'éducation physique, de consolidation.

STUDY ABOUT THE INCREASE OF PHYSICAL EDUCATION LESSON EFFICIENCY BY USING CONTEST AND GAME AS MEANS AND METHODS

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Abstract: This research is an experimental study that aims at determining the efficiency of competitive dynamic games to the fulfillment of physical and sports objectives in gymnasium cycle. The experiment was conducted at the Bucharest "Elena Farago" school.

Key-words: physical education, lesson efficiency, dynamic games.

Aim of the research

To determine the influences of dynamic games and competitive exercises used in the physical education lesson upon children's body, as well as their efficiency to the fulfillment of physical education objectives in gymnasium schools.

Hypothesis of the research

If within the physical education lesson we use dynamic games and competitive exercises both for the motor capacity development and for the acquisition of skills specific to sports branches and events included into the national curriculum, the lesson efficiency will increase in gymnasium schools.

Tasks of the research

- To select classes for the experimental and control groups;
- To select and systematize games and competitive exercises;
- To establish control tests according to the syllabus.

Organization of the research

The experiment was conducted at the Bucharest "Elena Farago" school, sector 4, during the school year 2009-2010.

Tested samples

The experimental sample was made up of mixed groups of pupils in grade 5th A and B, while

the control sample included groups of pupils in grade 5th C and D.

For the experimental group, we used, in the lesson planning and development, dynamic games and competitive exercises, in order to fulfill the curriculum objectives. For the control group, we used traditional means and methods of physical education on this level.

Research methods

1. Scientific documentation method
2. Experimental method
3. Statistical-mathematical methods
4. Graphical method

Exercises and dynamic games for the motor capacity development: handicap exercises, race among teams of 3 to 4 pupils on 15-20-30-40-50 m distances, the tag, the third runs, mouse and cat, running in a circle, the snake catches its tail, the last runs forward, fishing-net and fishermen, zigzag relay race, running relay race, crabs and shrimps, who's the first?, who runs faster?, outrun the one in front of you, competitive 3-5-7-9 skipped steps, competitive 5-7-9-11 skipped steps by landing on the jumping pit, competitive long jump with double take-off: 1-3-5 successive jumps, competitive oina ball throwing from one knee stand, competitive oina ball throwing from the standing position, relay races with routes containing basic and utilitarian-applicative skills, team pursuit, mixed relay race, little bunches, the

wheel, wolf and sheep, Olympic circles, crab's walk, down and up!, the labyrinth, race of the two balls, hunters and ducks, race on numbers, the train, Bedouin race, run, defend and attack!, rectangle-shaped team relay race, circle-shaped team relay race, release the stick!, unbalance your opponent!, rope pull, desk flight, the pendulum, cock fight, the wheelbarrow, pair jump relay race, cross straddle relay race, one leg race, skipping rope relay race, angling line, leaping train, tucked jump to tucked jump relay race

Preparatory games for the acquisition of skills specific to sports branches: ball through the tunnel, ball over the bridge, ball planting and picking, travelling ball, relay race by dribbling, ball at the target, defense and attack!, relay race by rolling the ball, dribbling among range poles, relay race by dribbling with two balls, triangle-shaped relay race, step running, passes in two, ball to the captain, the ball burns, simple shuttle, double shuttle, who passes the farthest?, triangle-shaped passes, square-shaped passes, star-shaped passes, relay race with passes in two, pass to the called number, pass in the numerical order, basketball player's relay race, "hustiluc" game, race on numbers, competitive basket throwing, throw to the basket and pursue, who succeeds in scoring many baskets one after another?, who throws and scores more within a minute?, relay at two panels, throw to the basket by using the "medusa" dribbling, who's the first to the ball?, ankle tag, half-circle

outrun, relay races with gymnastic elements, relay races with applicative routes and gymnastic elements

Control tests

- Speed running on 50 m (V);
- Long jump from the standing position (SLL);
- Endurance running – 600 m girls and 800 m boys (R);
- Oina ball throwing (ARC);
- Trunk raises from the lying back position (ABD);
- Trunk raises from the prone position (SPT).

Results and their interpretation

For each control test of the experiment, the groups of pupils were submitted to the initial testing (IT) in September 2009 and to the final testing (FT) in May 2010.

The results of these control tests were mathematically processed by means of calculation formulas. We calculated thus the arithmetical mean, the standard deviation and the variability coefficient.

In the following table, we present the **arithmetical mean** of pupils' results in both of the testing periods, on genders and for the two groups included in the experiment.

Control test	Boys				Girls			
	Experimental group		Control group		Experimental group		Control group	
	IT	FT	IT	FT	IT	FT	IT	FT
V	8"8	8"3	9"4	8"9	9"0	8"5	9"5	9"2
SLL	159.6	174.4	157.7	163	152.5	165.5	148.3	153.3
R	3'20"	2'50"	3'25"	3'01"	2'41"	2'17"	3'22"	3'08"
ARC	22.20	28.70	19.71	24.69	17.42	23.05	14.75	17.76
ABD	19	32	21	27	17	30	16	24
SPT	27	42	23	32	26	42	22	30

From the table, we can notice that values are increased in both of the tested groups, but as compared to the control group, increases are greater in the experimental one.

Conclusions

Because dynamic games can be performed on restrained areas, without special expensive equipments, they are accessible to the physical education lesson, regardless of the school facilities. Included into the physical education lesson, they assure an increased motor and functional density. At the same time, the competition among partners creates a setting favorable to the progress of school physical education lessons.

Depending on the aimed objective and on its instructive-educative valences, games and contests can be successfully used in almost all the

moments of the lesson, except for that one destined to the locomotor apparatus selective influencing.

The introduction of dynamic games in the first sequences results in pupils' increased focus on the next activity. That is why we recommend the selection of short-duration, diverse and attractive games.

The experiment results confirm the hypothesis of our research and we can firmly assert that if we use correctly selected, organized and conducted dynamic games and competitive exercises, this will increase the physical education lesson efficiency and will enhance the conditional and coordinative motor qualities, but also the basic and utilitarian-applicative skills and abilities specific to some sports branches and events.

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Studiu cu privire la creșterea eficienței lecției de educație fizică prin folosirea întrecerii și jocului ca mijloace și metode

Rezumat: Această cercetare urmărește realizarea unui studiu experimental în vederea stabilirii eficienței utilizării jocurilor dinamice sub formă de întrecere în realizarea obiectivelor educație fizice și sportive din

ciclul gimnazial. Experimentul a fost realizat la Școala „Elena Farago”, București.

Cuvinte cheie: educație fizică, eficiența lecției, jocuri dinamice.

Étude concernant l'augmentation de l'efficience de la leçon d'éducation physique par l'utilisation de la compétition et du jeu comme moyens et méthodes

Résumé: Cette recherche vise à la réalisation d'une étude expérimentale en vue d'établir l'efficience de l'utilisation des jeux dynamiques compétitifs dans l'accomplissement des objectifs de l'éducation physique et sportive au cycle gymnasial. L'expérimentation a eu lieu à l'école "Elena Farago" de Bucarest.

Mots-clés: éducation physique, efficience de la leçon, jeux dynamiques.

THEORETICAL AND METHODOLOGICAL CONSIDERATIONS ON TEACHING MOVEMENT GAMES SECONDARY SCHOOL PUPILS

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Summary: Games in general are activities of ludical type, with tremendous influence upon the development of the executors' personality from many points of view, including on the level of social integration. They are total, attractive, spontaneous, free, natural and uninterested activities. They also have recreational and compensating facets. That is why they are very much used in organisational forms in the free time of various categories of subjects.

Key words: games, movement games, selection, analysis, conduct.

Movement games constitute an important means of achieving part of the tasks that pertain to physical education. They are largely applied in all the organized forms of this activity: physical education lessons, school festivals and holiday camps. An active sporting influence can only be achieved by an organized activity, led and guided by the teacher, who has the role of performing permanent educational work. Game activities sometimes constitute an independent activity, some other times they are included within the complex of physical exercises in the lesson. In order to reach its goals, the physical education lesson must take into account the relevant didactic principles. That is why it is necessary to focus on the main demands that have to be observed in organizing and preparing movement games and relays.

A. Game selection – in this respect the points to take into account are the topic of the lesson and its objective. Most of the times the games, relays, races concur to attaining more than

one operational objective. Supposing the topic and objective have been set, Dragu M., [2006] it is necessary to throw into play the following factors:

- The game collective participants, seen through the intermediary of the number of participants, their age, sex, physical training and development, and state of health;
- The game effective participants; when the game activity is organized with a larger number of children, the games and relays should be chosen so that to include as many children as possible, thus insuring the effective participation of all players. When the effective participation is reduced, the children's overwork is to be avoided, by reducing the number of repetitions, their intensity and duration, etc.

The children's age – the main factor to be observed in selecting the game is the participants' age. In order to obtain good results one is

constrained by the knowledge and observance of morphological (somatic), physiological (functional), mental and motive characteristics of each age and sex. In order to be suitable for a certain age group, the game should meet two requirements, viz. to be acceptable from the point of view of physical and intellectual capabilities, and to arouse interest. Small school children (aged 7-8) are characterized by dynamism and the ability to focus their attention. On the other hand, muscle force, coordination, skill and precision in movement execution can also be developed at this age. We can use games, races and relays on short distances, with and without direction changes, leaps over real or imaginary obstacles, ball relay games especially with catching-throwing elements, climbing games, target throwing and other types of movements. Games accompanied by texts or songs are also very convenient. Generally, such games do not divide the collective into teams. Out of the team games the recommendable ones are simple relays, Tudorache V., [2000], with elements of running, transport or rolling a light ball. The relations between players, the game actions or rules are very simple. At 9-11 years of age, all these elements increase in complexity. Children are inclined to team games, within which each may have a personal contribution to the game's success. It is advisable to use games that do not include direct contact with the opposition. The duration is bigger, and the physical effort may be higher Dragu M., [2006]. The games include the same elements, but at a higher complexity level, such as: catching the ball while running, relays with getting over small obstacles, etc. The rules will be more numerous and complicated. The activities of boys and girls may be common at this age.

Children's gender – a lot of games, relays, races are suitable for both sexes. But there are some games that cannot possibly be practised by girls, such as the games that require muscular strength or sustained, intense effort.

Physical development and training – the game should tally with the physical and mental abilities of the collective, viz. be acceptable. These collectives, i.e. classes, are non-homogeneous from this point of view. Well-developed, strong children are in the same class with weaker, less trained children. That is why the activity should be oriented in such a manner so that to respond to the abilities of all the children in the class, trying to bring the latter category to a suitable level.

State of health – it represents an important factor for the choice and development of the game. Still, there are situations in which, because of objective reasons, the children's health is more fragile, being susceptible to disease in the conditions of intense physical effort or lower air temperature. In such circumstances, the games will be chosen so that to be less strenuous both in intensity and duration.

Activity particulars – games are used in the most varied forms of organization of the physical education activity. For the lessons of physical education, the games to be chosen are the ones that fulfill certain objectives of the lesson topics. For school festivals the games should be musical, races, in pairs, teams, groups, of skill and ability, relays.

Place – it is extremely important in choosing the game. Outdoors is the perfect location for the most varied games, with high effectiveness and various formations. Indoors there are many games that cannot be played, so that the games chosen will have to conform or be adapted to the given conditions.

Weather conditions – when the activity takes place outdoors, especially when the air temperature is low or the humidity degree too high, the games should enhance mobility, involving all the participants.

B. Preparation of the game space – movement games may be organized outdoors or indoors. In either case, the space must be prepared beforehand. The school playground or yard will have to be prepared so that to ensure the unhindered development of the activity, fulfilling the conditions of hygiene in both state and location. The place should be flat, hole-free, with no obstacles that might cause injuries. Some playfields, especially large ones, require marking by coloured flags to insure visibility. Some others only need simple line markings. When the activity takes place indoors, Antohe G., [2002] the necessary area will be secured, especially in improvised spaces, in classrooms, corridors, etc. The markings are performed by chalk tracings, as the arrival or turning line should not be the wall or some other obstacle, but a chalk marking at a distance of 2-3 meters. For relays, it is advisable to mark the departure point with two lines, one for the departure proper and one for the standby, 2 or 3 steps behind.

C. Preparation of the game material – game diversity imposes the use of a very diverse material. The inventory should include:

- Balls of different sizes and weights;
- Wooden hoops of various sizes;
- Jumping ropes;
- Sand sacks for targeting;
- Different types of targets (panels, poles, etc.);
- Sticks and relays;
- Markers, flags of different colours;
- Distinctive signs for players (scarves, coloured bands, numbers, etc.).

In general, the material should fulfill the following criteria:

- Be suitable, from the point of view of size and weight, to the age of the players;
- Be sufficient in number;
- Be in good condition.

For the games practised in primary school, the materials should be vividly coloured. The material is prepared before the beginning of the activity. The distribution is to be made after the implementation of the ground rules.

D. Team formation – the teams involved in the race should be equal in number and value, as unbalanced teams do not stimulate the participants. When the game is organized with mixed teams, a balanced proportion of the sexes should be kept.

Many procedures are used in team formation:

- Procedure by counting – players disposed in line are counted in twos or threes, etc. The disadvantage is that the teams are not always balanced in point of value. The procedure is successfully used in all games that do not require specific abilities: catching and throwing the ball, target aiming, etc.
- Choice by the captains – the number of captains is equal to the number of teams that are to be formed. Then the captains choose the players alternately. The disadvantage is the long time necessary in team forming. The procedure can be used if the skills of the participants are clearly stated.
- Choice or distribution by the teacher – it does not take long and it can be done when the teacher knows his pupils well.
- Choice by test – it can only be used in races.

E. Selection of the team captain – there are numerous games in which the teams must have a captain. The selection procedures are as follows:

- By appointment from the teacher – the disadvantage is that the players do not take an active part in the choice. It is used when the time is limited or the players are not yet well acquainted.
- By choice from the players – the procedure is pedagogical in character, as it takes into account the players' desire. It is advisable for the teacher to hint to the skills that the captain should possess.

F. Selection of assistants. They are necessary only for certain games, their role being the control of fulfilling the tasks of the game, keeping the score, etc. This position should be filled by:

- pupils on medical leave;
- other pupils, by rotation.

G. Selection of players. Before the beginning of the game, the players must stand in formation on the starting spot in order to faster understand the tasks and rules, which will lead to simplifying the explanations. The spot will be chosen so that the teacher may have all the pupils in sight, and the other way round.

H. Explanation and demonstration of the game. The exposition must be clear, brief, on an appropriate tone of voice and at the understanding level of the class, in silence and order. The teacher is recommended the following exposition plan:

- Name of the game;
- Its content in short;
- Main rules;
- Directions on appointing the winner;
- The focus of each player;
- Setting the commands and signals for the start, the end and other game moments.

Details are to be filled in during the game. The explanation is followed by a demonstration. Questions may be asked if necessary.

I. Game leading and refereeing. The game starts at a signal agreed upon beforehand after the players have understood the game and know what they have to do. The things to be paid attention to are execution, conduct and rule observance. Some players need stimulation, others need calming down. The referee is the teacher or a pupil. During the game it is imperative that:

- The game actions be closely observed and the rules strictly applied;
- The score be accurately kept.

J. Game discipline – voluntary discipline contributes to a better grasp of the game. The game generates high emotional tension. In some cases players are riotous, and the reason should be sought in game selection, wrong team formation or poor refereeing.

K. Effort dosage – it involves:

- The place of the game within the lesson;
- The amount of physical and intellectual effort spent before the game;
- Age and sex peculiarities;
- State of health;
- The degree of physical development and training.

The dosage of effort is achieved by:

- Increasing or decreasing the field function of the number of players;
- Game duration;
- Game pace and number of repetitions;
- Use of lighter or heavier material;
- Change of formations;
- Rule completion or simplification.

L. Game ending; score- setting and analysis. The end of the game, like the entire game, must be organized in character. Its early or delayed ending is not recommendable. The factors that determine the game duration are:

- Number of participants;
 - Age of players;
 - The pace of the game.
- Game duration may be assessed:
- In time;
 - By number of repetitions.

In cases when the score is tied, the game is extended in order to determine the winning team. At the end of the game the results are established and communicated to the players, then a short analysis of the game is performed, assessing its development, its acquisition, the players' conduct and rule observance. The most successful moments and the players that contributed to them are emphasized; the positive conduct is appreciated and the negative one is criticized. These directions are useful both for the pupils and the teacher in the organization of the games to follow. The inclination of humans towards game underlies the phrase "homo ludens". A series of specialists in the field of physical education, psychology, pedagogy, among which: Emil Planchard, A. Rey, E. Claparede, "consider that the game is an exclusive manner of expression of children behavior" [4, pag.61]. In the specialty literature, more "theories" are presented in an attempt to explain the biological factors determining the nature and role of the game. Thus, the most frequently stated are the following:

- Energy surplus theory – maintains that through game the energy surplus unused during the day is being consumed;
- Atavism theory – portrays games as being the reflection of an inherited trait, the child being considered a "revision" of phylogeny;
- Preparing exercise theory - shows that games correspond to various instincts: fight, erotic etc.
- Cathartic theory – is based on the idea that the game constitutes a means of ennobling some born instincts.

Through the fiction, acquisition, construction games, the child will anticipate its future adult life by using the means at hand and within the limits imposed by the environment. Children's games and, later, adults' games contribute to the formation and development of personality. Games do not rule out effort, tiredness, and serious character. A child who is not playing is not a normal child, and in his subsequent adult life, he is likely to suffer. On the contrary, using the game, adapted to its exterior forms, to precise educational goals, means to channel in a beneficial manner one the most profound energies of childhood. Ludical activity constitutes a good part, if not the entire day activity of the child. **a. Motion games (dynamic)**

Games are pleasant, attractive and beneficial activities. Motion games have a precise theme, chosen with insight. They usually unfold in a reduced space following simple rules. They are especially used in childhood at young ages, in association with music and songs. According to the organization of moving games, one pursues:

- maintaining an optimum health condition
- harmonious physical development and perfection of motive capacity

- formation of basic motor and utilitarian-applicative habits and abilities
- formation and development of certain moral and volitional qualities.

Moving games are organized in strict compliance with the physical and psychic particularities of children. The choice of the moving games is made function of several factors, such as:

- goals to be achieved
- age and sex of participants
- preferences of the participants to the game
- number of participants
- material conditions (place of development and materials used)
- atmosphere conditions etc.

b. Racing games represent a finality of practicing physical exercises.

In the antique Greece, as we have seen, games were organized on the competition system, of fight (agonistica, agon = racing), as racings did not limit themselves just to gymnastic exercises, but cumulated everything that could "heighten" the physical and spiritual value. Agonistics promoted the totality of the racing games: musical, poetic and gymnastics.

Preparation games are focused on acquiring certain basic motive habits and skills, as well as being utilitarian-applicative in character, centering on the formation and improvement of certain habits and skills that are specific to various sporting branches and tests.

Aiding games pursue the learning and improving of certain elements, technique and tactics exercises, development of the motive qualities specific to various sporting branches and tests.

Sporting games, as a form of the game, are characterized by the complex, highly organized and unitary character. The presence of certain rules established by the regulations set by the specialty federations provides a strict development framework. They favour the affirmation of the talents of the athletes. Moreover, sporting competitions have become real mastery shows followed live by an impressive number of spectators and, indirectly, broadcast by multi-media.

Moving games, human activity form

The moving game, through content and effects, present certain advantages as compared to other means of physical education, offering favorable conditions for the simultaneous development of basic motor habits and skills, or specific to the motor qualities, as well as of the mental processes and personality traits. Its multiple instructive-educational valences explain the inclusion of the moving game as means of physical education within the content of all lessons, in all classes and all ages. They are both a means and a method of education. Through game one understands a situation where a lot of players act

who, successively and independently, choose, viz. make a decision (action) from a multitude of choices. This decision consists in choosing in each of the moments set by the rules of the game, one solution, function of the information degree of the player and of the actions of the others, the players. The decisions are adopted in competition situations that encompass both conflicting as well as cooperative elements. As an activity form, the game has a social structure and function. It embellishes and completes life, being indispensable to both the individual and the society as a whole, as a cultural function. The game creates and reinforces order. Any deviation from the rules deforms its character and suppresses its value. The player going against or around the rules spoils the game.

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Considérations théoriques et méthodiques sur enseignement jeux de mouvement des élèves du secondaire

Sommaire: jeux en général sont des activités de type ludical, avec une énorme influence sur le développement de la personnalité des exécutants de nombreux points de vue, y compris sur le plan de l'intégration sociale. Ils sont au total, attrayant, spontanée, libre, naturel et désintéressé des activités. Ils ont aussi facettes de loisirs et de compensation. C'est pourquoi ils sont très utilisés dans les formes d'organisation dans le temps libre des différentes catégories de sujets.

Mots clés: jeux, jeux de mouvements, la sélection, l'analyse, la conduite.

Considerații teoretice și metodologice privind predarea jocurilor de mișcare în gimnaziu

Rezumat: jocurile în general, sunt activități de tip ludic, cu influență enormă asupra dezvoltării personalității executanților din multe puncte de vedere, inclusiv cu privire la nivelul de integrare socială. Ele sunt, atractive, spontane, libere, naturale și neinteresate de alte activități. Ele au, de asemenea, aspecte de agrement și de compensatoare. Acesta este motivul pentru care sunt foarte mult folosite în forme de organizare în timpul liber a diferitelor categorii de subiecți.

Cuvinte cheie: jocuri, mișcare, selecție, analiză, conduită.

STUDY REGARDING SPEED-FORCE PARAMETERS IN THE REALIZATION OF JUMPS IN THE GYMNASICS DISCIPLINE PART I – BOYS

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Resume: This paper presents an energy parameter and control parameters determined during the use of the MGM test. The variation of the difference in average power is analyzed, between individual values and those of the group, which describes an optimal force-speed preparation of future athletes. The coefficients of energetic and structural variability show the manner muscular control during different phases of the jumps.

Key words: MGM test, energetic parameter, control parameters, jumps, gymnastics.

Introduction

The theoretical and practical knowledge regarding the training of specialists in physical education and sport requires continuous efforts to meet the demands they face with current activity.

The principles and methods of training required for this process must have a strong scientific content and must allow the mastering of

the content of fundamental disciplines such as athletics, gymnastics or sports games.

The school gymnastics, as basic discipline of physical education, is a significant prop of terminology notions and practical skills that provide the graduates the necessary resources in the practical activity.

In the content of basic gymnastics, the jumps occupy a special place in that, in addition to motor skills with specific character it also educates the students' moral and will qualities. the jumps in the gymnastics are specially built motor actions in order to create difficulties for developing overall body movement.

As it is known, specific gymnastics jumps are characterized by the stamping on both legs. This very important action gives the body the flight path towards the apparatus. Realizing the detachment with optimal effort parameters will lead to addressing the apparatus in a good condition and thus achieving the second flight, to complete the jump.

Hypotesis

Given that the energetic parameters in which the stamping on both legs is made are significant in the achievement of it, we wanted to do a study that points out these basic parameters using test data provided by the MGM test on a group of students in practical classes in the gymnastics discipline.

The group was made of 25 boys, students of the Sports and Physical Education Faculty and which have a higher level of expression of motor qualities due to the practicing of sporting activities. The data was summarized in the table number 1 where we can see which values were recorded for the two categories of test parameters, namely energetic parameters and control parameters.

Table no 1 MGM parameters for both legs – in the boys group

	Average power	CVE	CVS
Sportsman 1	4.92	4.36	7.34
Sportsman 2	4.04	4.47	3.16
Sportsman 3	4.67	4.59	5.64
Sportsman 4	3.87	64.91	12.08
Sportsman 5	3.28	5.55	7.38
Sportsman 6	4.14	4.24	6.7
Sportsman 7	4.68	2.97	1.8
Sportsman 8	4.14	4.29	8.17
Sportsman 9	3.36	83.51	61.99
Sportsman 10	4.7	3.23	9.39
Sportsman 11	4.98	2.86	3.9
Sportsman 12	4.53	8.53	7.62
Sportsman 13	4.28	5.46	8.41
Sportsman 14	3.87	4.52	5.88
Sportsman 15	3.68	65.86	9.7
Sportsman 16	5.44	3.53	9.39
Sportsman 17	4.8	2.12	9.53
Sportsman 18	4.85	5.06	6.1
Sportsman 19	3.71	66.9	42.12
Sportsman 20	4.94	2.16	5.07
Sportsman 21	4.96	3.14	49.35
Sportsman 22	4.18	4.13	6.26
Sportsman 23	4.41	6	5.48
Sportsman 24	3.38	3.47	12.96
Sportsman 25	4.36	5.06	32.09
Group average values	4.33	14.84	13.50
Standard deviation	0.58	24.94	15.51
Variation coefficient	13.38	168.06	114.91

The MGM test deployment

The MGM test begins by determining the aerobic capacity of subjects during the making of a force-speed effort. Thus, we can highlight their energy when they jump on both feet. Because the effort from the MGM test is nonspecific, its results

are not distorted by the previous abilities of the subjects who perform. The provided results have general nature and can be very useful for future training periods for students, since it points out their qualities in that moment.

The subjects, who carry out three series of jumps, including one on both legs and one on the

left leg and right leg, do the deployment of the test. A one-minute break is made among these series.

The jumps are performed on a mat that is connected to a computer. Variables that are measured are the time spent during flight and the time spent on the ground support phase of the subjects tested. Measurement accuracy is a millisecond.

After completing the test, the computer system selects 10 jumps, which are considered, valid, which then become the start base for all calculated subsequent parameters.

Results and discussions

In our study, we have considered an energy parameter, namely the average unitary power and two control parameters, namely the energy variability coefficient and the structural variability coefficient.

The energy parameter of average unitary power provides information about the qualities of power - speed, thus being able to determine whether one of the two grades is in excess or is deficient.

The assessments can be made for the purposes of recourse if the nature or strength training is oriented towards speed and the gap

appeared between them. In addition, energy asymmetries can be assessed.

The energetical parameters provided by the MGM test are:

- the average unit power (PU);
- the average jump height (H);
- the repetition velocity (VREP).

The average unit power (PU) or the jumps on both legs, on right and left leg, offers information about the conditional training, about the force - velocity as motrical qualities, measuring the power ratio to body mass.

The formula used to determine PU parameter is:

$$PU = \frac{\frac{g}{8} \cdot \sum_{i=1}^{10} Ta_i^2}{\sum_{i=1}^{10} (Ta_i + Ts_i)} \quad (1)$$

Where: Ta_i is the flying time for the jump "i"

Ts_i is the contact ground time for the jump "i".

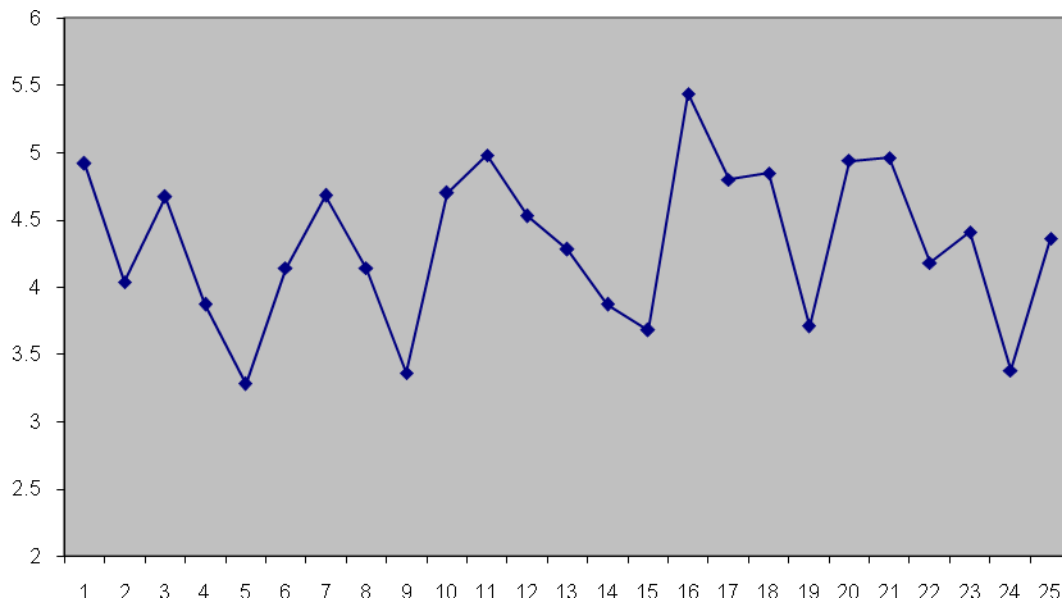


Figure 1 - Variation of average power in comparison with the group average

As can be noticed from the graphic, carried out in Figure 1, about the relation between individual performance and the group average, they are balanced. Of the 25 students tested, 13 are above this average, representing 52% while the 12 subjects, representing 48% are below average.

As a result we can say that for one part of the sportsmen a future direction of physical training is necessary for the development of the dominant qualities of force while for others it is necessary to prepare them on the speed component.

This will lead to an optimal balance between the two qualities that will lead to achieving optimum soil impulse action, opening minds to improving delivery of gymnastic jumping.

Control parameters provide information about the quality of control of the phase of flight or the quality of the preparation phase for body contact with the ground. Next, we analyzed separately those parameters to see what the groups' status in relation to them is.

CVE is the energetical variability coefficient which provides information about the

control state of the energy resources during unspecific motion.

The coefficient CVE is computed automatically using the formula:

$$CVE = \frac{AbsT(Ta_i)}{\frac{\sum_{i=1}^{10} Ta_i}{10}} \cdot 100 \quad (2)$$

where: Ta_i is the flying time for the jump "i".

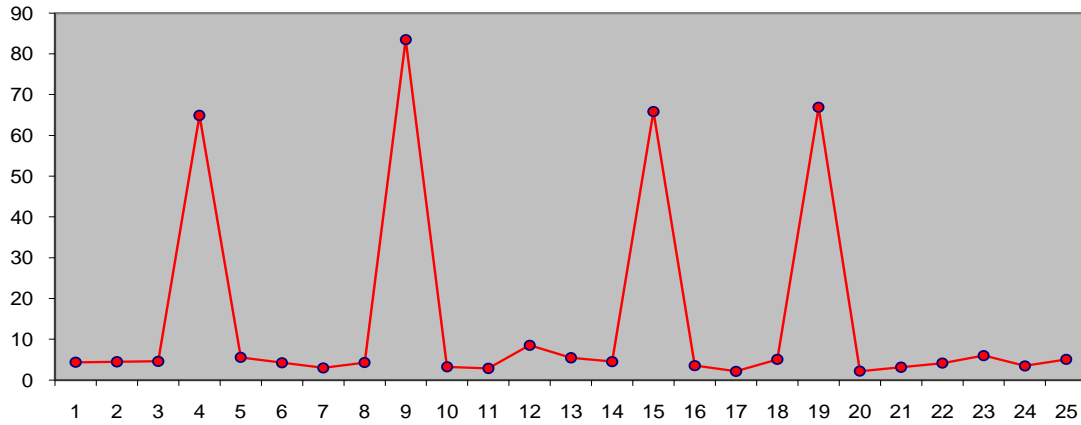


Figure 2 - CVE individual values

After examining the control parameter values obtained for the coefficient of energy variation presented in Figure 2, most test subjects, 84% respectively, are below the group average.

Only 16% had very high values in relation to this average which leads to the idea that if their jumping awareness is lacking, the completion of actions being carried out without sufficient muscular control to prepare the next jump.

We calculated values for each subjects, further in the experiment, of the second control parameter by reevaluating the values obtained in the MGM test. Dates recorded in individual manner are shown in Figure 3.

CVS is the structural variability coefficient which provides information about the individual capacity of controlling the ground contact.

The coefficient CVS is computed automatically using the formula:

$$CVS = \frac{AbsT(Ts_i)}{\frac{\sum_{i=1}^{10} Ts_i}{10}} \cdot 100 \quad (3)$$

where: Ts_i is the time on ground for the jump "i".

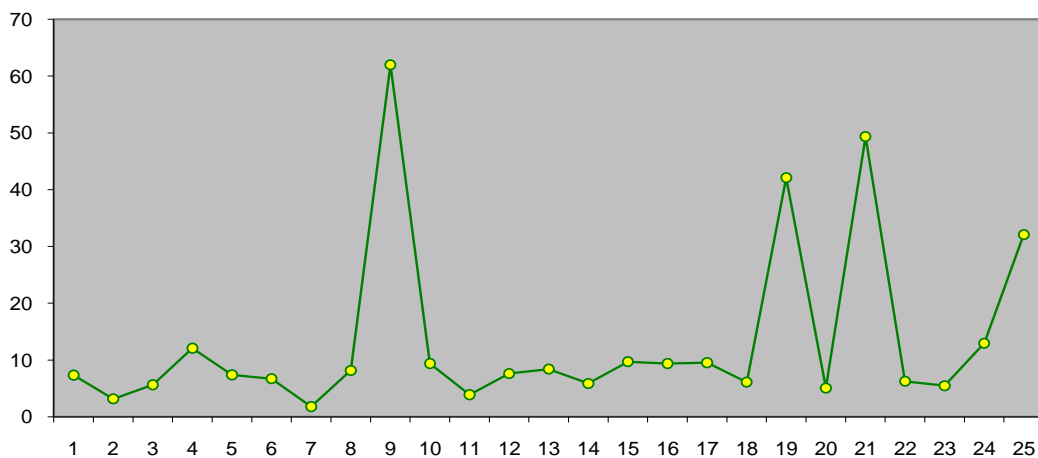


Figure 3 - CVS individual values

The fact that the values reported by most subjects, 84%, are near the average of the group,

shows us that they have a better ability to control muscle when they make contact with the ground.

The small percentage of subjects who are deficient in this indicator is explained by their lack of concentration in the time of the test.

Also, it can be seen in Figure 2 and Figure 3 that there are generally about the same athletes who have registered different amounts regarding the group and in the case of the energetic value coefficient, respectively athletes 9 and 19.

An important aspect in the performance of the jump can be considered to be the one related to the arms action. Movements made with hands can contribute to achieving more effective jumping, which is confirmed by most experts.

Thus, we believe we can expand our research results to the dynamics of the material presented in relation to the coordination of muscle control in moments of impulse and phase of flight and dynamic action of the arms.

Conclusions

By using the MGM test, the energy resources that an athlete detains in a natural manner, through his biologic construction, can be analyzed. These are highlighted by making jumps on both feet, which are natural movements that we come across in all sporting activities.

The results provided by analyzing the energy parameter as well as those provided by control parameters are those that can guide planning and programming of sports training and individual physical training.

Revaluating the data obtained from the MGM test will lead to balancing the relationship between the qualities of strength and speed and at the individual level will lead to a better adaptation to varied stimuli that condition the flight phase of jumping, muscle contraction upon contact with the ground and its relaxation time during the flight moment.

Accumulation of this information causes a personalized physical training process that will expedite the process of assimilation of different acrobatic elements.

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Studiu privind parametri de forță – viteză în realizarea săriturilor la disciplina gimnastică.

Partea I – băieți

Cuvinte cheie: *testul MGM, parametru energetic, parametrii de control, sărituri, gimnastică.*

Rezumat: *Lucrarea prezintă un parametru energetic și parametrii de control determinați în timpul utilizării testului MGM. Este analizată abaterea diferenței de putere medie între valorile individuale și cele ale întregului grup, ceea ce descrie un optim forță-viteză în pregătirea viitoare a sportivilor. Coeficienții de variabilitate energetică și structurală arată modul de control muscular în diferite faze ale săriturilor.*

Étude sur les paramètres de force-vitesse dans la réalisation de saut dans le discipline gymnastique,

Partie I - garçons

Mots clés: *paramètre énergétique test MGM, paramètres de contrôle, plongeon, gymnastique.*

Résumé: *Cet article présente un paramètre d'énergie et les paramètres de contrôle déterminée pendant l'essai à l'aide de la MGM. Il a analysé la différence de l'écart de puissance moyenne entre les valeurs individuelles et celles du groupe, qui décrit une préparation optimale force-vitesse de futurs athlètes. Les coefficients de variabilité de l'énergie et la structure de contrôle musculaire montre comment les différentes phases de saut.*

COMPARATIVE ANALYSIS ON THE QUALITY OF DRIVING SPEED APPLICATION OF THE TREATMENT GROUP / GRADE OPEN DIFFERENTIAL

Professor **Monica Delia Bica**
University "Constantin Brancusi" of Targu-Jiu

Abstract: *„Differentiation is a prerequisite, it is key to success in assimilating the knowledge, skills and skills training and development of physical education, creates the possibility of obtaining "physical performance" by each student, according to the possibilities and potentialities available”.*

Keywords: *analysis, education, power, lesson, features, test value.*

The principle of the individual peculiarities, it is necessary that educational action in physical education to start from knowing the full range of features both individual and those arising from the particularities of the discipline of education that is just a more complex character in that that act directly on students and targeting physical development, health, labor power and, not least, collective relations. Also, a current problem in physical education is to promote differentiation strategy that allows the starting level and motor ability of each pupil to take into account what is able to achieve in the future, if he is granted help. This aid must be understood as adaptations to the structure, content, teaching, teaching methods and the peculiarities of psychophysical methods, age and individual students to develop their personality best. Differentiation is a prerequisite, it is key to success in assimilating the knowledge, skills and skills training and development of physical education, creates the possibility of obtaining "physical performance" by each student, according to the possibilities and potentialities available. Individual treatment of students in physical education lessons requires knowledge of:

- biological features, their anatomical and physiological.
- individual psychological features (attitudes, interests, motivation, skills, temperament and character).
- features of general and special physical preparation, technical and tactical (the skills and driving skills), theoretical (knowledge level).

Groups (with relatively uniform) are more correctly called "groups of bio-motoric level value. The gender (mixed classes) can create value by 2 or 3 groups. Groups are determined by measurements and tests at the beginning of the school year, the award of points for the quantitative and qualitative findings.

These groups, at best, should be "dynamic", "mobile" in the same lessons. They can be closed (unmodified in the lesson and during the school year) if it is an experimental type research. In this case they are changed after the experiment, according to the score "general" gained by each student.

Initial Testing

Following initial testing data collection, the sample 5x10m shuttle, group value distribution is as follows:

Group value	GOOD	AVERAGE	POOR
Nr. students	13	4	14
Range of values	under 21,5s-21,6s	21,7-21,8s	21,9s-over 22,0s






-  – Group good
-  – Group average
-  – Group poor

Table algorithms for calculating values \bar{x} and σ :

Value x_i	f_i	$x_i \cdot f_i$	$d_i = x_i - \bar{x}$	$d_i^2 = (x_i - \bar{x})^2$	$f_i \cdot (x_i - \bar{x})^2$
21,2	1	21,20	-0,89	0,79	0,79
21,3	1	21,30	-0,79	0,62	0,62
21,4	1	21,40	-0,69	0,48	0,48
21,5	6	129,00	-0,59	0,35	2,09
21,6	4	86,40	-0,49	0,24	0,96
21,7	1	21,70	-0,39	0,15	0,15
21,8	3	65,40	-0,29	0,08	0,25
21,9	1	21,90	-0,19	0,04	0,04
22,0	3	66,00	-0,09	0,01	0,02
22,1	1	22,10	0,01	0,00	0,00
22,2	1	22,20	0,11	0,01	0,01
22,3	2	44,60	0,21	0,04	0,09
22,5	1	22,50	0,41	0,17	0,17
22,6	1	22,60	0,51	0,26	0,26
23,0	1	23,00	0,91	0,83	0,83

Value x_i	f_i	$x_i \cdot f_i$	d_i $x_i - \bar{x}$	d_i^2 $(x_i - \bar{x})^2$	$f_i \cdot (x_i - \bar{x})^2$
23,5	1	23,50	1,41	1,99	1,99
24,0	1	24,00	1,91	3,65	3,65
26,0	1	26,00	3,91	15,29	15,29

<p>Girls</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 31$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 22,09$ s</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 27,69$</p> <p>Standard deviation-</p> <p>$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,95$</p> <p>$v = \frac{\sigma}{\bar{x}} \cdot 100 = 4,27\% < 15\%$</p> <p>-high homogeneity</p>	<p>Girls – group good</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 13$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,48$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 4,95$</p> <p>Standard deviation-</p> <p>$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,62$</p> <p>$v = \frac{\sigma}{\bar{x}} \cdot 100 = 2,87 < 15\%$</p> <p>- high homogeneity</p>
<p>GIRLS gr. average</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 4$</p> <p>$\sum f_i \cdot x_i = 87,10$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,78$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 0,41$</p> <p>Standard deviation-</p> <p>$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,32$</p> <p>$v = \frac{\sigma}{\bar{x}} \cdot 100 = 1,46 < 15\%$</p> <p>-high homogeneity</p>	<p>Girls – gr. poor</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 14$</p> <p>$\sum f_i \cdot x_i = 318,40$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 22,74$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 22,34$</p> <p>Standard deviation -</p> <p>$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 1,26$</p> <p>$v = \frac{\sigma}{\bar{x}} \cdot 100 = 5,55 < 15\%$</p> <p>- high homogeneity</p>

Interim testing

Following data collection interim testing at 5x10m shuttle test, the distribution of the value groups is as follows:

Groupe value	GOOD	AVERAGE	POOR
Nr. SUBJECTS	13	10	8
Range of values	under 21,5s-21,6s	21,7-21,8s	21,9s-over 22,0s

Tabel algorithms for calculating values \bar{x} și σ :

Value x	f	fx	d $x - \bar{x}$	d ² $(x - \bar{x})^2$	f (x - \bar{x}) ²⁻²
21,3	2	42,60	-0,45	0,21	0,41
21,4	5	107,00	-0,35	0,13	0,63
21,5	3	64,50	-0,25	0,06	0,19
21,6	3	64,80	-0,15	0,02	0,07
21,7	4	86,80	-0,05	0,00	0,01
21,8	6	130,80	0,05	0,00	0,01
21,9	2	43,80	0,15	0,02	0,04
22,0	2	44,00	0,25	0,06	0,12
22,2	2	44,40	0,45	0,20	0,40
22,5	1	22,50	0,75	0,56	0,56
23,2	1	23,20	1,45	2,09	2,09



– Group good



– Group average



– Group poor

Girls

$$\text{Nr. subjects} - \sum_{i=1}^n f_i = 31$$

$$\sum f_i \cdot x_i = 674,40$$

$$\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,7$$

Media -

$$\sum f_i \cdot (x_i - \bar{x})^2 = 4,54$$

Standard deviation -

$$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,38$$

$$v = \frac{\sigma}{\bar{x}} \cdot 100 = 1,76\% < 15 \%$$

-high homogeneity

Girls – gr. good

$$\text{Nr. subjects} - \sum_{i=1}^n f_i = 13$$

$$\sum f_i \cdot x_i = 278,90$$

$$\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,45$$

Media -

$$\sum f_i \cdot (x_i - \bar{x})^2 = 1,31$$

Standard deviation -

$$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 1,48$$

$$v = \frac{\sigma}{\bar{x}} \cdot 100 = 1,48 \% < 15 \%$$

- high homogeneity

GIRLS gr. average

$$\text{Nr. subjects} - \sum_{i=1}^n f_i = 10$$

$$\sum f_i \cdot x_i = 217,60$$

$$\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,76$$

Media -

$$\sum f_i \cdot (x_i - \bar{x})^2 = 0,02$$

Standard deviation -

$$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,05$$

$$v = \frac{\sigma}{\bar{x}} \cdot 100 = 0,23 < 15 \%$$

- high homogeneity

Girls – gr. average

$$\text{Nr. subjects} - \sum_{i=1}^n f_i = 8$$

$$\sum f_i \cdot x_i = 177,90$$

$$\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 22,24$$

Media -

$$\sum f_i \cdot (x_i - \bar{x})^2 = 3,20$$

Standard deviation -

$$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,63$$

$$v = \frac{\sigma}{\bar{x}} \cdot 100 = 2,85 < 15 \%$$

- high homogeneity

Final testing

After harvesting the final test data to test 5x10m Shuttle, Group / Grade distribution is as follows:

Group value	GOOD	AVERAGE	POOR
Nr. students	22	5	4
Range of value	under 21,5s-21,6s	21,7-21,8s	21,9s-over 22,0s

Table algorithms for calculating value \bar{x} and σ :

Value x_i	f_i	$x_i \cdot f_i$	d_i $x_i - \bar{x}$	d_i^2 $(x_i - \bar{x})^2$	$f_i \cdot (x_i - \bar{x})^2$
21,2	4	84,80	-0,36	0,13	0,52
21,3	2	42,60	-0,26	0,07	0,14
21,4	3	64,20	-0,16	0,03	0,08
21,5	8	172,00	-0,06	0,00	0,03
21,6	5	108,00	0,04	0,00	0,01
21,7	2	43,40	0,14	0,02	0,04
21,8	3	65,40	0,24	0,06	0,17
21,9	2	43,80	0,34	0,11	0,23
22,1	2	44,20	0,54	0,29	0,58



– Group good



– Group average



– Group poor

<p>Girls</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 31$</p> <p>$\sum f_i \cdot x_i = 668,40$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,56$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 1,79$</p> <p>Standard deviation -</p> <p>$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,24$</p> <p>$v = \frac{\sigma}{\bar{x}} \cdot 100 = 1,12\% < 15\%$</p> <p>- high homogeneity</p>	<p>Girls – group good</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 22$</p> <p>$\sum f_i \cdot x_i = 471,60$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,44$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 0,77$</p> <p>Standard deviation -</p> <p>$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,24$</p> <p>$v = \frac{\sigma}{\bar{x}} \cdot 100 = 0,88 < 15\%$</p> <p>- high homogeneity</p>
<p>Girls gr.</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 5$</p> <p>$\sum f_i \cdot x_i = 108,80$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 21,76$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 0,21$</p> <p>Standard deviation -</p>	<p>Girila – gr. poor</p> <p>Nr. subjects - $\sum_{i=1}^n f_i = 4$</p> <p>$\sum f_i \cdot x_i = 88,00$</p> <p>Media - $\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i} = 22,00$</p> <p>$\sum f_i \cdot (x_i - \bar{x})^2 = 0,81$</p> <p>Standard deviation -</p>

$$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,20$$

$$v = \frac{\sigma}{\bar{x}} \cdot 100 = 0,94 < 15 \%$$

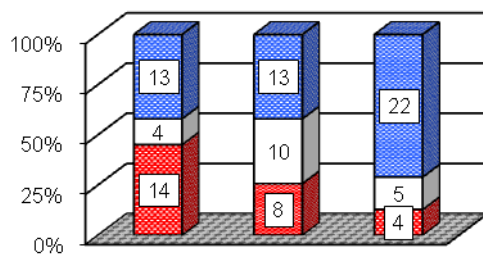
- high homogeneity

$$\sigma = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}} = 0,45$$

$$v = \frac{\sigma}{\bar{x}} \cdot 100 = 2,05 < 15 \%$$

- high homogeneity

The values recorded in the final testing is better than the interim testing. Values at final test level is significantly higher values than the other two samples, which generated the number of groups Amongst Schoolgirls good and average number of students to rise against the weaker group.



The average time for girls decreased from 22.9 to 21.7 and the initial and intermediate testing, and finally decreased to 21.56 s, 1.34 s less than the initial testing with 0.14 and than the interim testing. In the first part of the lessons for the development speed is noted considerable progress, because we started from a low level of this quality level determined by initial testing.

The relatively low speed Amongst Schoolgirls between final and initial testing is due to the specificity of this quality driven, and good values are slightly improved with a high degree of heritability.

Collective results from this trial showed a greater homogeneity at the outset, the coefficient of variation was 4.27%, which ultimately improved steadily in value of 1.12%.

The results of the ANOVA statistical method are:sunt:

Anova: Single Factor

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	4,442151	2	2,221075	5,876306	0,003994	3,097696
Within Groups	34,01742	90	0,377971			
Total	38,45957	92				

Null hypothesis $H_0 : x_1 = x_2 = x_3$.

Alternative hypothesis: $H_1 : x_1 \neq x_2 \neq x_3$

Degrees of freedom for the example: $v_1 = k - 1 = 3 - 1 = 2$

The value of $p = P(F > 5.87) = 0.0039$ so the null hypothesis is rejected, which shows that the initial group environments, intermediate and final are significantly different, that there has been progress by applying differentiated treatment of education lesson physics (by dividing students into groups of value).

Conclusions

- Differential treatment is a method that can ensure success in the assimilation of knowledge and the training of physical education skills and abilities, creating the possibility of obtaining "physical performance" by each student as they have potential
- The plan should emphasize the importance of motoric behavior psihomotricity elements in regulating voluntary actions, both in terms of intent, the goal orientation and the mechanism of

"tracking"-compensation control and coordination.

- Knowing the students is a particularly important for ensuring the effectiveness of the educational process - a process that requires both a good training specialist and a certain kind of professional conduct involving personality traits, pedagogical tact, etc.. The desire to optimize differential treatment is carried teacher-student relationship and also the improvement of interpersonal relations and tinting.
- Teaching modern educational methods prints a heuristic character. In this context, students are trained on line searches for knowledge by personal effort, are armed with strategies based on learning and discovery. In physical education teaching, heuristic strategies are combined with

imitative strategies, algorithmic and experimental.

- Trends and methodological guidelines are the result of evolution theory and the practice field, a development driven by science and technology achievements, and are badly needed, given the current priorities and future of physical education and sport.

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Analiza comparativă privind evoluția calității motrice viteza în urma aplicării tratării diferențiate pe grupe valorice deschise

Rezumat: "Tratarea diferențiată este o condiție fundamentală, ea reprezintă cheia succesului în

asimilarea cunoștințelor, formarea și perfecționarea deprinderilor și priceperilor la educația fizică; creează posibilitatea obținerii „performanței fizice” de către fiecare elev, conform posibilităților și potențialităților de care dispune”.

Cuvinte cheie: analiză, educație, forță, lecție, particularități, testare, valoare.

Analyse comparative sur la qualite de commande de vitesse apres l'application du groupe de traitement / grade open différentiel

Résumé: "Le traitement de la différenciation est une condition préalable, il est la clé du succès dans l'assimilation des connaissances et la formation des compétences en éducation physique et les capacités, la création de la possibilité d'obtenir" la performance physique "par chaque élève, selon les possibilités et les potentialités dont elle dispose".

Mots-clés: analyse, l'éducation, l'énergie, une leçon, caractéristiques, valeur de test.

OBSERVED EXPERIMENTAL STUDY ON THE MOTRICAL POTENTIAL OF FACULTY OF FOOD SCIENCE INDUSTRY STUDENTS WITH EUROFIT TESTS

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Abstract: The European Charter specifies that physical fitness is a key component not only for sport, but also for health, considering that learning physical skills can make an important contribution to self-knowledge and motivation of each individual to ensure their own physical condition, and hence a good mood.

Keywords: motrical potential, students, Eurofit Tests.

Introduction

The Minister Committee of the European Council Statute reminds in "The European Charter of Sport for All" the resolution (76) 41 the principles for the sports for all policy and in Article II of the Annex it is stated that *sport* is one of the socio-cultural development aspects, and should be treated in close connection with other domains for which general policy decisions are made: education, health, social problems etc.

The European Charter specifies that physical fitness is a key component not only for sport, but also for health, considering that learning physical skills can make an important contribution to self-knowledge and motivation of each individual to ensure their own physical condition, and hence a good mood.

Determination of the motoric potential of the students is not only used as an experimental study that aims to find out the level of physical training of the individuals enrolled in the vocational training system in

higher education, but also to create a database that can help interpret the motricity level of students as a prerequisite for effective grounding of the educational process.

Also, the results of this experimental study on the motoric potential of students may be used as solid arguments for sport to take its rightful place among the components of the process of training the young generation.

Research hypotheses:

Based on the assumptions made, the experimental study concludes the following facts:

- Consider that recording the level of motoric potential of the F.S.I.A students can generate an analysis of the degree of motoric development of the students at Dunarea de Jos University ", and it could be extended to national level.
- Consider that the objective recording of the results can be a positive parameter in the reorientation of

the content and methodology of the physical education classes.

- Consider that this is the only scientific criterion by which we can support the need for physical education classes in higher education.

The *research* purpose was to determine the motoric potential of the FSIA students in Galați.

The *objectives* of this study include:

- Measuring and evaluating the motoric potential of the FSIA students using the Eurofit test;
- Assessment of the results after the performances;
- Highlighting the trends that are manifested in the motoric potential development of this segment of the population;
- Substantiating the need for essential changes on the formation of the younger generation by awaring the institutions.

Used research methods are: study of the bibliographic material, teacher observation, mathematical methods.

The *scientific approach* was made between November 15, 2010 and April 15, 2011, when the Eurofit test was applied to a number of 70 students from FEAS Galati, of which 42 boys and 28 girls.

Eurofit test consists of a simple set of physical tests to determine the motoric potential, among which: *Flamingo balance* (the position of standing on one leg with the other bent back, the same hand grasping the ankle), *long jump*, *crunches* (lifting of the body from a sitting position -30), with a *hanging bent arm*, *shuttle run* - 10x5 m, *shuttle run endurance* – table 1.

Table 1
The result of the Eurofit test

Nr. Crt. Probe	E.F. (nr. greșeli)		S.L. (cm)		A30" (nr. repet)		B.I. (sec)		10x5m (sec)		R.N. (min)	
	B	F	B	F	B	F	B	F	B	F	B	F
1.												
2.	14	9	192	169	17	20	18.6	6.2	22.5	22.2	10	11
3.	11	12	211	161	18	25	15.1	8.8	20.6	21.5	9	12
4.	12	11	193	167	20	21	11.8	7.8	20.3	21.2	8	13
5.	9	12	210	171	19	26	12.2	8.9	22.4	20.8	10	11
6.	13	9	194	176	19	20	16.7	9.2	20.7	20.5	9	12
7.	12	10	200	175	18	26	19.1	9.4	21.6	22.1	11	14
8.	11	11	200	171	18	19	17.6	8.6	20.2	20.1	9	12
9.	10	11	190	174	18	18	18.4	8.2	21.2	20.7	10	15
10.	10	10	211	160	19	18	18.8	8.6	22.2	19.8	10	13
11.	11	12	200	157	19	16	15.1	9.4	22.2	23.8	10	12
12.	10	11	200	165	20	17	14.1	8.6	22.1	22.6	11	13
13.	9	10	214	164	24	20	19.3	9.8	20.2	20.2	9	12
14.	8	10	214	178	18	22	15.1	8.8	20.2	22.8	11	14
15.	11	9	195	173	18	25	14.4	10.0	22.8	20.4	11	14
16.	12	12	200	157	17	16	19.6	8.8	22.5	21.3	11	11
17.	14	10	198	164	18	25	19.2	8.9	21.1	22.1	9	10
18.	15	8	211	171	17	20	16.1	9.4	21.8	22.1	8	12
19.	9	11	210	158	20	21	18.1	8.2	21.2	22.8	7	10
20.	11	9	218	159	21	21	19.4	9.4	20.8	21.4	9	11
21.	12	9	214	169	19	20	15.6	9.8	22.9	21.8	9	12
22.	12	12	216	160	15	21	16.6	8.8	20.8	22.4	10	13
23.	11	11	210	168	19	20	15.2	8.6	21.2	22.4	10	11
24.	12	12	215	170	25	19	14.8	8.6	22.8	22.2	9	12
25.	11	9	200	175	21	18	11.8	8.6	22.8	22.2	10	14
26.	10	10	214	175	19	17	16.1	9.2	21.1	22.8	9	12
27.	11	11	211	170	21	22	14.2	7.8	21.5	22.2	9	15
28.	11	10	201	160	21	16	17.4	6.2	20.5	22.4	9	13
29.	10		211		22		19.2		21.2		11	
30.	9		203		25		15.4		22.5		12	
31.	13		218		21		17.2		20.2		9	
32.	12		212		18		19.8		22.5		9	
33.	11		212		22		14.1		20.4		11	
34.	9		212		25		19.9		21.3		10	
35.	8		216		18		17.8		20.8		11	
36.	7		211		15		18.2		22.1		12	

37.	12		210		20		17.6		22.2		9	
38.	11		216		20		19.4		22.1		9	
39.	10		210		15		16.8		20.8		9	
40.	11		214		21		18.8		22.4		8	
41.	9		212		20		17.6		21.1		9	
42.	11		210		22		17.8		21.2		12	
Σ	445	281	8509	4517	802	549	689	233	878	585	395	333
$x_{(sex)}$	10.5	10.0	202.5	161.3	16.7	19.6	16.4	8.3	20.9	20.9	9.4	11.9
$x_{(proba)}$	10.2		181.9		18.1		12.3		20.9		10.6	
$\pm m$	B+0.5		B+41.2		F+2.9		B+8.1		-		B+2.5	

Legend: EF - Flamingo balance; SL - long jump; A30"- crunches; BI - hanging bent arm; 10x5m - shuttle run; RN - shuttle run endurance.

The processing of the statistical and mathematical data resulted from the research was done according to its objectives, particularly focusing on the

results of the six Eurofit tests provided by students - in fig. 1.

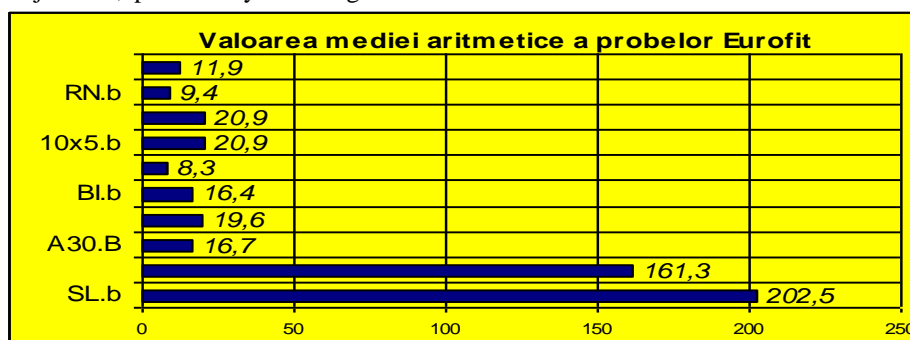


Fig.1 The results of the Eurofit tests

Conclusions

Registration of the motoric potential of the F.F.S.I. students provides data that can generate an objective analysis of the motoric level training.

The research shows that male students have superior motoric skills, compared to those of female students for long jump, balancing the body with a bent arm, from the hanging position and strength. If the Flamingo tests show close results between male and female students, and shuttle speed results are equal, for abdominal strength testing of lying back, girls have higher values by about three repetitions.

The research activities require responsible acts from teachers and students alike, for an increase in the motoric potential of the young generation, for a harmonious physical development, but also for optimal health.

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Studiu experimental constatativ privind potențialul motric al studenților de la facultatea de știința și ingineria alimentară în baza testelor eurofit

Cuvinte cheie: potențial motric, studenți, teste Eurofit

Rezumat: În Charta europeană se specifică faptul că, aptitudinea fizică este o componentă importantă, nu numai a sportului și a educației fizice, dar și a sănătății, considerând că însușirea și deprinderea aptitudinilor fizice poate aduce o importantă contribuție la cunoașterea de sine și la motivarea fiecărui individ în a-și asigura propria condiție fizică, și implicit a unei stări de bine.

STUDY REGARDING THE APPROACH OF THE ACROBATIC ELEMENTS IN THE TRAINING OF SPECIALIZED STUDENTS AT THE GYMNASTICS DISCIPLINE

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Resume: *Through this performed study we wanted to observe if the number of allocated hours through the education plan to the „The methodology basis of gymnastics disciplines” ensures a sufficient volume of work in order to acquire practical abilities regarding the acrobatic elements in school gymnastics.*

Key words: *physical education, school gymnastics, acrobatic elements, practical work.*

Introduction

The academic environment of our society has passed, and is still passing, through time periods marked by searches, that can solve more efficiently the tasks of shaping the future specialists in all the domains of activity.

The education system goes through the same transformations in the physical and sports education domain that, beyond the changes that took place in the renaming of the domain, was also subjected to the profound changes of structural conception of the education finality, by the implement of the Bologna teaching system.

Through this system's perspective, in the last years, the education system wanted to evolve from the 4-year study period, with global finality, towards the 5-year study period, with multiple finality. This transformation thus divided the acquired abilities by the specialist in the license domain, that generates limited abilities, and the masters' domain, with extended abilities. Thus, the license period of study took the form of the 3-year duration of studies and the master's period the 2-year duration.

In order to cope with the new planning demands of didactic activities, a reconsideration of the value of specialty disciplines was necessary that can offer a qualification during the license program, which can then be continued in the next step, the master, offering the possibility of acquiring superior abilities.

Hypotesis

Taking these considerations into account, we wanted to make a study through which we can observe in what degree, the education plans offer the possibility to the students to approach, in the current context, the content of acrobatic gymnastics from a acquirement and practical working point of view, content which is stipulated in the school curriculum.

Content

Just as we showed from the beginning of this article, the structural transformations have generated in time the restriction of the number of hours assigned to the disciplines in the education plans. The "Gymnastics" discipline also subdued to this process. After many planning versions, a license program of specialists training is functioning at the Sports and Physical Education Faculty in Galati in the physical education domain, approved in 16.10.2008 (October sixteenth two thousand and eight). According to it, gymnastics is approached for frontal working with groups of students during the first semester in the first year of study. The volume of practical activity hours is 56, embodied in 28 practical works. The work is also completed by the specialty course that is present every week, with a volume of 56 conventional hours. Since the issue of our study was the learning and practice of acrobatic elements, we will further refer to the development of the activities in the practical activity works.

The discipline's content is very rich and varied. It is very necessary to the future specialist of the domain because its contents can be found in most of the lesson's moments and in all learning units as specialty issue.

We therefore believe it to be natural that the student has a sufficient number of hours in which he can practice acrobatic elements, so that at the end of the school, the level of the learned motor skills commends him as a minimal model for their execution. The practical activity during the practical work must cover the entire content of basic gymnastics. It is composed of several groups of means, which must ensure a number of hours that will allow us to believe that the student has the possibility of acquiring them at a very acceptable level.

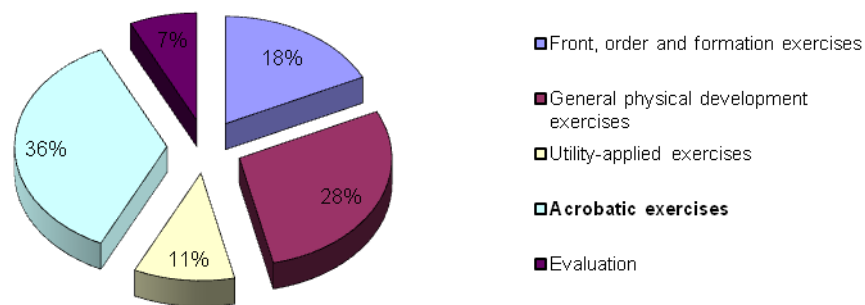
Table number 1 shows the main groups of means of basic gymnastics and the amount of hours spent in practical activities.

Table no. 1

Front, order and formation exercises	5 practical works
General physical development exercises	8 practical works
Utility-applied exercises	3 practical works
Acrobatic exercises	10 practical works
Evaluation	2 practical works

From the data analysis presented in Table 1 it can be easily seen that, for learning the setting and consolidation of acrobatic elements, we can assign a

volume of 10 hours (20 hours) of practical activity works, and we have shown this in the graphic number 1.



Graphic number 1 The planning of the teaching means of basic gymnastics

Discussion

It can be clearly seen from Graphic 1 that, given the practical importance of the acquirement of special motor skills the basic gymnastics, they are allocated the largest share from the practical activities. This can lead us to the idea that students will practice these skills sufficiently to form the mentioned skills.

But this is a wrong opinion. To understand exactly how the student practice acrobatic elements we must take into account the volume of skills to be learned, the volume of analysis of the curriculum for classes V-VIII, where they are specified explicitly.

You can observe from the analysis of this curriculum that the acrobatic elements required to be completed by secondary school pupils are 16 in number, to which a number of three specific jumps are supplemented, which are resumed during the whole cycle of this learning level.

As a result, the 10 practical lessons allocated to acrobatic exercises are divided in turn into two, namely, two lessons for jumping and 8 lessons for the proper static and dynamic acrobatic elements.

From the proportion of the number of acrobatic elements present in the school curriculum with the number of hours of practical works in the training of specialty students, we see that it is

necessary to address two acrobatic elements in a practical lesson.

The practical lesson has 100 minutes, and of these, approximately 60 minutes are allocated to the units of learning, namely acrobatic elements. The remaining time is used to solve other tasks of the practical lessons, among which we find, the management of lesson times by students, using specialized terminology, an essential aspect in the development of the future specialist of the domain.

As a result, an effective 30 minutes time remains for the knowing, learning, fastening and consolidation through exercise of a motor skill specific to basic gymnastics.

In this unit of time, the specialized teacher should include the explanation, demonstration, presentation and typical mistakes aid. Thus it results in the fact that the time for the proper exercising is reduced. To this, we add the number of students participating in the practice, and we can see that the actual practice time of a student is very low.

To keep the criterion of workload calibration straight, the number of hours allocated to exercise discipline in the curriculum, we conclude that the 30 minutes in which to address a specific skill of gymnastics is about 1% of the total working hours, which is 2.800 minutes in the 28 practical lessons. Results obtained from the

analysis are presented in Figure 2, where it can synthetically be seen that the share of students' exercising for acquiring school gymnastics' acrobatic elements is very low.

It should be noted that, for covering the contents of other means of basic gymnastics, one

hour of practical works is allocated in the units of learning. Just to describe the general physical development exercises four lessons are generally assigned, this being considered the school physical education base for every age level.

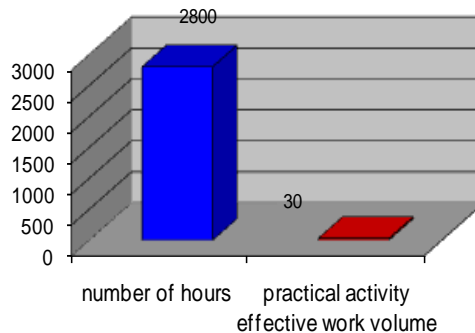


Figure 2 Work volume for acquiring an element from school gymnastics

Conclusions

After studying the curriculum at the Sports and Physical Education Faculty in Galati, in terms of practical lessons for addressing the basic gymnastics, I noticed that the content is insufficient. Placing the entire content of basic gymnastics in one semester is also contrary to the principles of teaching which recommends as a necessity a longer period for settling the concepts

should take into account the forming of a discipline with specific content from acrobatic gymnastics, thus increasing the share of hours granted for the exercise of acrobatic elements.

This would obviously lead to better assimilation of both knowledge and skills and hence the formation of a better-equipped specialist, able to meet specific business needs of school physical education lesson.

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presented in the frontal work with the specialty students.

The share resulting from the study, of only 1% of the volume of practical lessons for exercising in order to acquire knowledge and skills regarding an acrobatic element is totally unsatisfactory and leads to the impossibility of mastering specialist terms.

We believe that the reconsideration of the subjects in the curriculum of undergraduate cycle *fizice*, Colecția Manifestări științifice nr. 2 – București.

Studiu privind abordarea elementelor acrobatice în pregătirea studenților de specialitate la disciplina gimnastică

Cuvinte cheie: educație fizică, gimnastică școlară, elemente acrobatice, lucrare practică

Rezumat: Prin intermediul studiului efectuat am dorit să observăm dacă numărul de ore alocat prin planul de învățământ disciplinei „Bazele metodologice al disciplinelor gimnice” asigură un volum suficient de lucru în vederea dobândirii competențelor practice privind elementele acrobatice din gimnastica școlară.

Étude sur l'approche de preparer les etudiants de la discipline acrobatique professionnelle en gymnastique

Mots clés: éducation physique, école gymnastique, des éléments acrobatiques, des travaux pratiques

Résumé: Par cette étude nous avons voulu voir si le nombre d'heures allouées par la discipline d'enseignement «bases méthodologiques de disciplines Gymnasium» fournit un volume suffisant de travail pour acquérir des compétences pratiques pour les éléments acrobatiques de gymnase de l'école.

EXPERIMENTAL STUDY ON DEVELOPMENT OF FORCE THROUGH ATHLETICS SPECIFIC MEANS AT SEVENTH CLASS

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Abstract: *The purpose of this paper is to present and apply a series of specific athletics methods and means, to force development and demonstrate them efficiency in achieving some purposes and objectives of the school physical education, namely the development indicators of the driving qualities force growing, and to contribute to research activities enrichment, of the physical education and school sport domain.*

Key words: *force, development, means, athleticism.*

As the instructive-educational process, physical education is a social activity designed and carried out to improve physical development, and driving capacity of the practitioners of physical exercises, depending of the age and sex, social integration requirements, specific at one profession, etc.

Physical education is available an extremely large number of physical exercises, adapted and differentiated from all subsystems and variables, assuming that the practice systematic, continuous and by the well defined scientific rules of these exercises.

Physical education carry on in among young school generation is the best organized subsystem, its level, existing teachers with specialized training in teaching physical education, as a compulsory discipline, specific programs, various forms of organization and practice physical exercises by the students and their performance evaluation, based on fixed criteria and samples.

Physical education and sports, represents and constitute a constant and continuous, for all the factors responsible for the education of the young generation.

Physical education activities follow developing and improving the physical side (biometrical), of the personality, but favourably influence and performance activities.

Ideal of physical education in school allow determines of the educational goals, them concretising on a different planes and levels general prescriptions of the ideal.

The purpose of the physical education in schools, it is the development of individual personality, in accordance with society requirements from acquisition of autonomy, efficiency and balance with the natural and social environment, it can be defined in two ways, namely:

- strategic, which ensures on long term of development area on long term;
- practical, which basically sets up the main actions in a defined historical period.

School physical education aims, represents the materialization of the objectives in all their

aspects, namely: somatic, functional, physical-motoric, cognitive, affective and social.

The purposes can be concretizing in a variety of objectives, what targeting influence personality whole.

The current stage, leads to the terms of efficiency, development, evolution, progress, in all spheres of social activity.

Locating this terms to the content of physical education class, stem part of the most important basic requirements, to be met, to conduct an effective physical education class.

Content

It is well known and demonstrated that only by measuring and then judging, can be the size of a phenomenon or activity application, that is intended to be studied, controlled, especially directed towards an finality.

Hypotheses, are temporary solutions to problems of scientific research.

The assumptions of this paper are as follows:

- If the action may reveal an increase to level of develop of driving quality, force, materialized by the results obtained by students, to control samples.
- If the difference between the methods and means used, between control group and experimental group, will to obtain an improvement to the indices of force development and other driving qualities, because without the development of other basic driving qualities we can not approach only one development, in this case, the force.

Deep knowledge of morpho-functional and psychological particularities of each child, of each group, or classes with we work, represent the only way to allow point out for the two mistakes, more frequent in physical education and sports activities, namely over-taxed body through over-exaggerated efforts, on the one hand and excessive caution, because of that the training is maintained at a lower level of student possibilities, on the other hand.

Secondary education finalities, may be classified as:

- insurance for all students to a standard comparable to European Education;
- formation at the students of the ability to communicate effectively in real situation, using the romanian language, mother language, foreign languages and various specialized languages;
- formation and developing of adaptation and integration capacity in community;
- formation of positive attitudes in relation with the social environment; of tolerance, responsibility and solidarity;
- ensuring optimal educational and vocational orientation in relation to the students aspiration and skills;
- formation of the capacities and motivations necessary learning in the a changing society conditions;

Realization of the objectives of school physical education, is possible only if it systematically follow final completion some finalities of the primary importance for the motor training, such as motor skills development.

In the professional activity of a any citizen, especially in the athletic training, development level reached by driving qualities has a great importance.

Motor actions make mainly on account of four basic motor skills namely: speed, skill, strength and endurance and on account some manifestation forms of their.(Gh. Mitra, Al. Mogoş 1977)

Of driving qualities own them and specific certain parameters, through witch we can determine the value and contribution to the achievement of each driving qualities at realization of a different driving actions.

Thus, for determine the value of force, used as a standard parameter – load, for speed – movements rapidity, for resistance – action duration, and for skill – complexity and precision of action.(E. Firea 1979)

Objectification of the process for developing to the driving qualities, determine one a more precise ordering of the teacher, oblige him to continue searching, to find the most effective means and forms of activities organization, ensure a greater efficiency in achieving planned objectives.

In any school, even those who do not have a optimal material basis, on any time, motor skills development, can be done in the level of curricula requirements.

Driving qualities, are divided into three main categories, namely:

-- basic motor qualities: speed, skill, force and resistance, some authors adding mobility and flexibility;

-- specific motor qualities: are those involved with priority in the practice sports branches and contests;

-- special or intermediate motor qualities: mobility and flexibility.(Gh. Mitra, Al. Mogoş 1977)

"Driving qualities are features of body, materialized in the ability to perform movement actions, with some indices of speed, force, resistance and skill."(E. Firea 1979)

Driving qualities are native character, whose initial manifestation level, depends on the genetic hereditary fund.

Force is a body's ability to overcome resistance, by muscular effort or possibility to lift, to transport, to overcome, to pull some weight on muscle contraction.(Gh. Mitra, Al. Mogoş 1977)

Muscular force, is one of the most important driving qualities, frequently required in motor activities, there are no movement that can be done without force, without it, the possibilities for learning motor qualities, are practically nonexistent.

Force, like other motor qualities otherwise, involves a several forms of manifestation, forms that can be classified as by the numbers of muscles fibbers involved:

-- general force, in witch participate of most important muscular groups of the body;

-- specific force (segmentary), in witch participates by contraction, to overcome a resistance, only one or a several muscles groups;

After muscle contraction character, the force can be classified into:

a). static force (isometric), witch by contraction muscle fiber length does not change, engaged in making motors action or act;

b). dynamic force (isotonic), witch by contraction, length of muscles fibbers involved in the effort, changes;

c). joint force, combined, when to overcome resistance, be effect dynamic and static contractions in report with drivers acts and action those;

Force development method.

First, we work to increase force of all muscle groups, involved in fixing and maintaining in good posture, of a segments as whole body, in this sense, one drive priority, giving to the development of back and abdominal muscles.

To develop the force we use two main groups of exercises, namely:

a). exercises witch defeats their body weight (push-up's, jumping, climbing, exercises to develop force abdominal and back muscles);

b). Overcoming external resistance exercises, using different objects with different weights (dumbbells, sand bangs, sticks, resistance to a partner, different devices such as: gymnastics bank, weightlifting, etc.).

The experiment was conducted during as 1 october 2010 – 2 mars 2011.

Research methods and techniques

Research methods and techniques used in this paper were documentation, references study, observation, experimental study, methods of data processing and interpretation (statistical-mathematical and graphical).

The statistical and mathematical procedures have allowed the description and characterization, of objective based (digital) of the various data collected, were represented measured indicators.

Measurements and tests:

To demonstrate the growth indices of force development, by effective means, appropriate and

related to the age and sex of the students, was choice a relevant system control samples for this experiment, namely:

- 1). Push-up's for checking as a upper limbs, how many of 15;
- 2). On lying back, legs blocked on the trellis, raising and lowering of the body (abdomen), for 30 seconds;
- 3). Standing long jump (S.L.J.);
- 4). Traction in arms, how many of 10 executions?;
- 5). Ten-steps jump;

Table nr. 1

Tabel cu rezultatele testărilor inițiale și finale, la probele de control, la grupa experimentală-băieți

SUBJECTS	Push-up's		Abdomen (30 sec.)		S.L.J. (cm.)		Traction in arms		Ten-steps jump	
	Ti	Tf	Ti	Tf	Ti	Tf	Ti	Tf	Ti	Tf
S1	8	9	20	22	164	168	6	8	17	18
S2	10	10	18	19	165	167	8	8	15	17
S3	8	10	19	21	167	168	5	6	16	17
S4	9	11	17	19	162	166	7	8	14	16
S5	7	8	21	21	164	167	4	6	17	19
S6	9	9	20	22	168	169	8	9	15	17
S7	11	12	19	21	163	165	5	7	18	20
S8	8	9	21	22	168	171	6	7	16	18
S9	8	10	17	18	162	164	9	10	17	19
S10	9	11	18	20	163	166	7	9	19	21
Σ=	87	99	190	205	1646	1671	65	78	164	182
X=	8.7	9.9	1.9	20.5	164.6	167.1	6.5	7.8	16.4	18.2
PROGRESS	1.2		1.5		2.5		1.3		1.8	

We observe an improvement of the results at the final tests, compared to the original, but we also observe an improvement of a final results, much higher than those obtained from control group, given that the methods used in the experiment were much more effective.

We observe an improvement of the results at the final tests, compared to the original, but we also observe an improvement of a final results, much higher than those obtained from control group, given that the methods used in the experiment were much more effective.

Conclusions

Specific methods and means of physical education and athletics, for prepare in all planes at the level class, on witch research was carried out, were selected, measured and then applied in accordance with the particularities of gender, age and level of training of seventh class.

Research has revealed that analysing , systematizing and applying means of training, to increase of the indices of force development, proved to be effective and educating forms for motor qualities, specific to athletics.

Conducted research hypotheses, were verified because the level of preparation of students as seventh, has been growing.

Table nr. 2

Tabel cu rezultatele testărilor inițiale și finale, la probele de control, la grupa experimentală-fete

SUBJECTS	Push-up's		Abdomen (30 sec.)		S.L.J. (cm.)		Traction in arms		Ten-steps jump	
	Ti	Tf	Ti	Tf	Ti	Tf	Ti	Tf	Ti	Tf
S1	5	8	18	21	165	166	6	8	14	16
S2	6	8	15	17	164	167	7	10	16	19
S3	7	9	16	18	167	168	4	5	13	15
S4	6	7	17	21	160	165	7	9	16	20
S5	8	11	19	22	161	164	6	8	14	16
S6	5	8	16	19	165	168	5	7	14	17
S7	8	10	18	21	164	166	6	6	17	17
S8	7	9	17	18	165	168	8	9	18	19
S9	8	11	18	20	163	167	7	9	15	18
S10	6	8	16	20	167	171	6	9	17	19
Σ=	66	89	170	197	1641	1670	62	80	154	176
X=	6.6	8.9	17.0	19.7	164.1	167.0	6.2	8.0	15.4	17.6
PROGRESS	2.3		2.7		2.9		1.8		2.2	

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Studiu experimental privind dezvoltarea forței, prin mijloace specifice atletismului la clasa a VII-a

Cuvinte cheie: dezvoltare, forță, mijloace, atletism.
Rezumat: În cele ce urmează, voi demonstra cu ajutorul unui experiment, importanța folosirii mijloacelor specifice atletismului, în dezvoltarea forței, la clasa a VII-a.

Etude expérimental sur le développement de forces, par des moyens spécifique d'athlétisme a la septième classe.

Mots clés: développement, force, moyens, athlétisme.

Résumé: Dans la suite, je vais démontrer à l'aide d'une expérience, importance de l'utilisation des moyens spécifique d'athlétisme, pour développement de force a la septième classe.

MEDICAL AMBIDEXTROUS DEVELOPMENT FOR STUDENTS WITH SPECIFIC MEANS OF VOLLEYBALL GAME BY UMF TÎRGU MUREȘ

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Abstract: The process of teaching represents the educational-instructive activity performed by students and academics in an organizational and systematic way; thanks to this activity the students are endowed with a system of knowledge, skills, capacities, competences, intellectual and moving acquirements according to which they acquire scientific knowledge of the reality, they form their worldview, their moral believes, their features as well as their

knowledge, researching and creation skills. Education means conscious acts of the individual having as purpose the qualitative transformation of his entire personality, these acts are performed by others in the case of the educational system and by oneself in the case of self-education. The concept of psychic preparation, and psychomotor preparation cannot be limited only to the moral and volitional factors because they implicate in a certain measure also the intellectual and attitudinal factors, all these factors represent manifestations of the human psychic. So, the psychic preparation, thru its psychomotor component can be considered a component of the entire educational and training process of the student.

Key words: *medical students, ambidextrous, volleyball.*

Introduction

The content of psychic preparation consists in developing those sides of the psycho-behavioral activities of the student that impose on him an efficient conduct in the didactic activities, both regarding the entire adaptation to requests and stress and regarding his best improvement from technical tactic point of view in a certain sportive branch.

Therefore the sides of this preparation are: intellectual preparation, psycho-moving preparation, affective preparation, volitional preparation, forming components of the personality.

Ambidextrous, as a part of psychomotor preparation, can be efficient developed with specific processes of volleyball game. Ambidextrous, as a part of psychomotor preparation, can be Efficient developed thru volleyball game specific techniques.

As instructive educational process organized nature, physical education is a bilateral process in which, under the leadership of specialist teachers, subjects are systematically exposed to the permanent influences consistent with the objectives of education in general, and those for each stage of development improvement physical and motric ability.

The purpose of the research

The main goal of our didactic experiment was to draft a methodological system of actions, with specific methods of volleyball game and its implement in the didactic sportive activities with medicine students and not only in order to develop the psychomotor skills with instruments specific to volleyball, but also for ambidextrous development.

The hypothesis of the research

I tried to demonstrate the following hypothesis: The development of ambidextrous skills at medicine students can be achieved more efficiently, faster and nicer with instruments specific to volleyball.

Research methods used

1. The system of methods in collection of research data: method of self observation, method of observation, the psycho-pedagogic experiment, the method of enquiry, the method of discussions, the method of documents research, the test method.

2. The system of methods for mathematic-statistic and interpretation of the research data: organization and presentation, graphic representation, determination of statistic indexes, classification/order, comparison/rapport.
3. Checking and evaluation methods for the research results: current observation, questioning and oral examination.

Contents of the experiment

The pedagogic experiment was performed between October 2009 and January 2011 (3 semesters) with the following phases:

- October 2009- the constatative phase, at the end of this period the pre-testing phase took place;
- November 2009 - April 2010 it was performed the pedagogic experiment itself, at the end of this period it was performed the post-test;
- October 2010 – Ianuarie 2011, interval in which the re-test conducted.

In the selection of the subjects used for the experimental study we took into consideration the evaluation of the equivalence degree of the experimental and control groups so that we can reduce the possibility that the final results of the experiment can be influenced by uncontrolled factors within the experiment, connected in the structure and in the characteristics of the lots. In order to establish the evidence degree between groups we used data regarding the general level of the performance at the end of the anterior study period (the anterior year of the intervention) and the results of the probe used in the pre-test. (within the constatative experiment).

We analyzed also the structure and composition elements of the groups with a series of specific variables considered to be relevant for the present research: age, sex and the fact if the subjects are studying for the first time or for the second time at the university.

Hence we introduced a number of six experimental groups (N=44) and 8 control groups (N=51). As far as the *composition of the experimental and the control groups* is concerned in terms of age, sex and anterior studies of the subjects, we ensured a significant homogeneity because the two groups are formed only of students studying at university for the first time with ages

between 19 and 21. Therefore, taking also into account the results of the pre test, we can conclude that the two groups, the experimental and the control one, do not present significant differences and they can form the subjects for the experimental research.

For the experimental groups, the development of the didactic activities was characterized by the introduction within the training of instruments and of technical procedures specific to the volleyball game. Hence, the action technology in the training process includes complex techniques: main position in passing the ball with the two hands from upsides and from downsides; organization of the three touches in the own court; up rally; rally overtaking with both hands; attack ball; lifting the ball for attack; learning the blocking; learning the plunge backwards and lateral; doubling and placement. For the control groups, the development of the ambidextrous capabilities and especially of the psychomotor was performed only with specific means for the sportive branches, others than volleyball.

Pre-testing, in which we involved all subjects, allowed us the initial checking of the qualitative level of the ambidextrous capabilities and the collecting of the starting data.

The probes were performed by the teachers working with the student groups in the 1st and 2nd year that is by: Conf. Dr. B. I., Assist. S. B. PhD, as well as by Assist. T. F. PhD. The probes were preceded, after being introduced, by a brief instruction and were attentively watched and registered under the form of *Observance minutes* kept by the undersigned.

The phase of research post-testing was meant in the first place for the emphasis of the effects of the pedagogic intervention at the level of the experimental groups in comparison with the control groups. The second comparative measurement of the results for this phase was performed by comparing the obtained scores in the experimental group, respective the global scores at the final examination, with the scores obtained in the initial evaluation phase. The role of this phase was to check if and how the experimental group can detach itself significantly from the control group. We can state that the post testing was to check the subjects after the pre-testing phase, when on the experimental group was interfered with specific procedures for the volleyball game and regarding the development of the ambidextrous capabilities.

The means test were identical to those used in the pre-test test ambidextrous "turned", the dissociation is known movements of psychological examinations, "eye-hand" coordination is assessed by the precision and fluidity of design "in the mirror" or by baseball ball throwing at a target. "Eye-foot" coordination by sending the ball through voleibolare (roll up with both hands) in a

rectangle drawn on a wall or driving the ball through cones. We chose sample baseball balls throwing at a target. Throwing distance was set at 9 meters and the area of "sights" consisted of a circle with a diameter of 70 cm. drawing on one panel. It will make five throws with each hand and will write performance.

After a period of 6 months to check the stability in time "capabilities" ambidextrous development, we have resorted to re-test the experimental group subjects, with a rating similar to that operated in the pre-test and post-test.

Basically, our goal was to see if it can establish a link between the use of teaching strategies using the means of developing refarding ambidextrous means of playing volleyball and sustainability / durability of their properties.

Research results and their interpretation

In our study we used the *comparison test* "z", corresponding to the post-test for the experimental group (z^1) and the comparison test (z^2) between the experimental and control group. Therefore we interpreted the results according to three parameters: z^1 , z^2 and graphic representation. The formula of the comparison test "z" was the following:

$$z = \frac{m_1 - m_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

$$m_1, m_2 = \text{averages} = \frac{T}{N}$$

T = total values on the entire sample N = sample individuals

$$\sigma_{1,2} = \text{dispersions} = \frac{\sum (x-m)^2}{N-1}$$

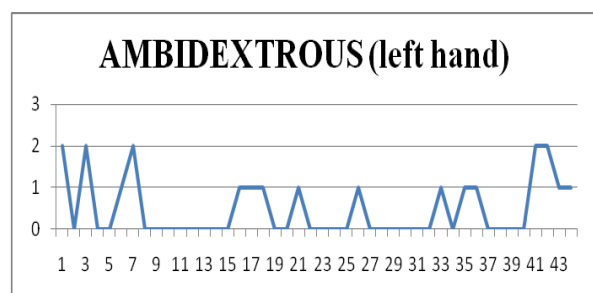


Fig. 1

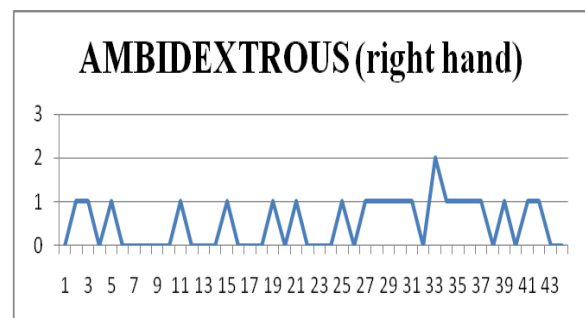


Fig. 2

As a consequence of the experimental intervention, the values of the ambidextrous skills increased progressively in comparison with the performed pre-testing phase at the beginning of the 1st semester of the university year 2009/2010.

This statement is sustained by the value of the comparison test z^1 , from the post-testing phase for the experimental group and z^1 between the experimental group and the witness group to the frequencies of the post-testing phase that were higher than 1,96. Therefore it results that the difference between the two averages is statistic significant at the level of significance of $P < 0,05$ (Bocoș, M., 2003).

Meanwhile the graphic representations show us the ascendant line of ambidextrous the skills, observing the progress of the 44 subjects.

AMBIDEXTROUS (left hand)

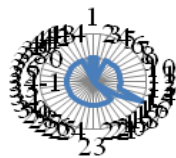


Fig. 3

AMBIDEXTROUS (right hand)

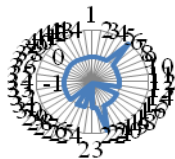


Fig. 4

The graphical analysis of ambidextrous (fig.3 and fig.4) can be observed that a total of nine values have changed, which means certain that the intervention experiment proved to be beneficial, keeping "capabilities" acquired during this experiment, with main goal to improve development of ambidextrous with specific methods of volleyball game.

Conclusions and proposals

The experimental intervention was performed on a sample of subjects, resulted from the initiation of the constatative experiment according to the pre-testing phase, the difference between the two averages is statistic significant at the level of $P < 0,05$.

According to this study we can conclude that the development of the ambidextrous capabilities at medicine students can be achieved more efficiently, faster and nicer with means specific to the volleyball game.

The new element of the study is the structure of these means and methods specific to the volleyball game that can be used in the development of the ambidextrous capabilities main skills.

These graphics offer a very suggestive image of the progress achieved with the experimental intervention. Meanwhile the present study represents for the academics and teachers as well as for the trainers with different specializations a didactic reference of the action means and their importance in the development of the ambidextrous capabilities within the educational instructive process.

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Dezvoltarea abidextriei la studenții mediciști cu mijloace specifice jocului de volei

Rezumat: Procesul de învățământ reprezintă activitatea instructiv-educativă, desfășurată în mod organizat și sistematic de studenți și cadre didactice în universități, activitate grație căreia, studenții sunt înzestrați cu un sistem de cunoștințe, priceperi, deprinderi, capacități, competențe, achiziții intelectuale și motrice, pe baza cărora ei dobândesc cunoașterea științifică a realității, își formează concepția despre lume, convingerile morale, trăsăturile de caracter, precum și aptitudinile de cunoaștere, de cercetare și creație.

Educația se referă la acțiunile conștiente ale individului ce au ca scop transformarea calitativă a întregii sale personalități, acțiuni desfășurate prin alții în cazul educației și prin sine, în cazul autoeducației.

Conceptul de pregătire psihică, deci și de pregătire psihomotrică, nu poate fi limitat doar la sfera factorilor morali și volitivi, deoarece îi angrenează în oarecare măsură și pe cei intelectuali și atitudinali, toți alcătuind manifestări ale psihicului uman. Deci, pregătirea psihică, prin componenta psihomotrică, o putem considera o componentă a întregului proces de educație și instruire a studentului.

Cuvinte cheie: studenți mediciști, ambidextrie, volei.

STUDY ON DEVELOPMENT OF SCHOOLGIRLS OVERWEIGHT MORPHO-FUNCTIONAL SECONDARY SCHOOLS INTRODUCTION BY MEANS OF FITNESS IN LESSON OF PHYSICAL EDUCATION

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Summary: Pubertal age morpho-functional peculiarities lead us to consider this stage of life as one of the most favorable development of motor qualities.

Is a need to implement programs Romanian teenagers to help them have realistic attitudes regarding their body weight and acquire knowledge and skills to enable them to adopt a healthy lifestyle and achieve ideal weight.

School curriculum should include health education classes that are explained and illustrated the principles of healthy eating, from primary school and continuing at least until high school. Educational programs must contain clear messages about the importance of adopting an active lifestyle with regular physical activity practice, which must be accompanied by a balanced diet, appropriate age, gender and physical activity that made daily.

Keywords: somatic-metric parameters, fitness, development Morpho-functional, overweight.

Research hypothesis

It was assumed that the use of means of aerobic physical education lesson will have a major influence on the morphofunctional development Amongst Schoolgirls overweight. Research goal is to optimize the educational process by using physical education lesson aerobic means.

Research Methods

In order to examine specific issues, complex, character and content of activity in physical education classes in secondary school have used the following methods of research, which highlights the effects of a new methodological approach by introducing media education lesson physical fitness.

1. Bibliographic survey method;
2. Type questionnaire survey method;
3. Teacher observation;
4. Measurements and testing method;
5. Teaching experiment;
6. The statistical and mathematical methods.

Organizing and conducting research

Analyzing the literature data, expert opinions on the issue of working with overweight schoolgirls in school physical education, was developed methodical organization of physical education classes with the means of fitness. To this end, we organized a teaching experiment lasting one school year, activity in the experimental classes being held after a new method of working, with a greater proportion of elements of fitness. In the control classes, but regular classes were held,

according to traditional methodology. One of the indicators, what is the quality of the training process for the subject "physical education" refers to students morpho-functional changes, mean the effort to adapt their body supported in the classroom. To study changes in the morpho-functional development Amongst Schoolgirls middle-school, I made a research program, the usual tests included measurements of the somato-metric parameters.

Preliminary data obtained as a result of physical training tests, psychomotor functioning and we have shown that children of this age are not satisfactory motility. This allows to conclude that during middle school students reduced motility system, which favors the accumulation of overweight increased level. In this context we have decided to implement a process of physical education fitness program with funds from schoolgirls who are overweight. Schoolgirls in this category usually are not sufficiently integrated into the educational process of physical education classes. These people have feelings of shyness and incapacitating to manifest and to achieve those goals that are set by the physical education curriculum. This means applying a special program of fitness, in our opinion can influence the psycho-physical state Amongst Schoolgirls that age.

Further detailed analysis will be studied indexes of the respective chapters. According the table 1, initial test results in development Morpho-functional and experimental students in the control groups did not differ essentially.

Table 1
Comparative analysis of indices of somatosensory initial metrics

Nr. Crt.	TESTS	Group experiment	Group control	t	P
		$\bar{X} \pm m$	$\bar{X} \pm m$		
1.	Height (cm)	165,70 \pm 1,32	164,80 \pm 1,34	0,48	< 0,05
2.	Weight (cm)	57,20 \pm 1,93	58,00 \pm 2,01	0,29	< 0,05
3.	Thoracic perimeter (cm)	90,40 \pm 1,45	90,85 \pm 1,44	0,22	< 0,05
4.	Waist (cm)	72,85 \pm 1,45	73,46 \pm 1,44	0,30	< 0,05
5.	Basin perimeter (cm)	96,35 \pm 1,01	97,52 \pm 1,05	0,80	< 0,05

The table above shows that schoolgirls undergo initial experiment results are almost equal all the tests, because their differences are of statistically insignificant ($P < 0,05$).

At the end of the school year, according to the same research program, tests were carried out pedagogical experiment in the final. Analysis of the results of scientific investigations revealed that at the end of the teaching experiment were detected some progress in all chapters morpho-functional development. A more marked increase was observed especially in the experimental group.

Micro-differentiation of differentiated instruction relates to activity within the group with overweight girls. Separating them from the team which took part based on the idea of group therapy, a combination of subjects with similar regimes, realizing that motivation to become an effective psychological support in the mobilization effort for the lesson and achieve results.

Following the table two data can be stated that the parameters investigated, the differences from initial testing functional somatic indices are significant.

Table 2
Comparative analysis of indices of somato-sensory end metrics

Nr. Crt.	TESTS	Groups	Statistical Characteristics		t	p
			Initial parameters	Final parameters		
1.	Height (cm)	E	165,70 \pm 1,32	168,38 \pm 1,30	2,16	< 0,05
		M	164,80 \pm 1,34	167,51 \pm 1,33	2,15	< 0,05
		t	0,48	0,47	-	-
		P	> 0,05	> 0,05	-	-
2.	Weight(cm)	E	57,20 \pm 1,93	52,44 \pm 1,64	2,97	< 0,05
		M	58,00 \pm 2,01	62,13 \pm 2,00	2,18	< 0,05
		t	0,29	3,75	-	-
		P	> 0,05	< 0,001	-	-
3.	Thoracic perimeter (cm)	E	90,40 \pm 1,45	85,56 \pm 1,40	3,58	< 0,01
		M	90,85 \pm 1,44	92,58 \pm 1,48	1,25	< 0,05
		t	0,22	3,46	-	-
		P	> 0,05	< 0,01	-	-
4.	Waist (cm)	E	72,85 \pm 1,45	68,34 \pm 1,41	3,39	< 0,001
		M	73,46 \pm 1,44	75,82 \pm 1,48	1,71	< 0,05
		t	0,30	3,66	-	-
		P	> 0,05	< 0,01	-	-
5.	Basin perimeter (cm)	E	96,35 \pm 1,01	92,28 \pm 0,97	4,37	< 0,05
		M	97,52 \pm 1,05	98,92 \pm 1,08	1,38	< 0,05
		t	0,80	4,58	-	-
		P	> 0,05	< 0,001	-	-

Note: samples correlated uncorrelated samples
P – 0,05 0,01 0,001 P – 0,05 0,01 0,001
t = 2,145 2,977 4,140 t = 2,048 2,763 3,674

Amongst Schoolgirls dynamic of significant improvement compared with those in development in the experimental group indicates a the control group Amongst Schoolgirls.

Here may be mentioned that effective results were obtained parameters chest volume and the volume size, so we can conclude that the application program means overweight schoolgirls fitness influenced largely improve those parameters that stood out at the initial stage and Amongst Schoolgirls characterized the overweight situation.

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Studiu privind dezvoltarea morfo-funcțională a elevelor supraponderale din ciclul gimnazial prin introducerea mijloacelor de fitness în lecția de educație fizică

Cuvinte cheie: parametrii somato-metrici, fitness, dezvoltare morfofuncțională, supraponderalitate.

Rezumat: Particularitățile morfofuncționale ale vârstei pubertare ne îndreptățesc să apreciem această etapă a vieții ca una dintre cele mai favorabile dezvoltării calităților motrice. Se impune necesitatea de a implementa în rândul adolescenților români programe care să îi ajute să aibă atitudini realiste, privind propria

greutate corporală și să dobândească cunoștințe și deprinderi care să le permită să adopte un stil de viață sănătos și să obțină o greutate ideală. Curricula școlară trebuie să includă ore de educație pentru sănătate în care să fie explicate și exemplificate principiile unei alimentații sănătoase, începând cu școala primară și continuând cel puțin până în liceu.

Programele educative trebuie să conțină mesaje clare despre importanța adoptării unui stil de viață activ, cu practicarea activităților fizice în mod regulat, care trebuie să fie însoțit de o dietă echilibrată, adaptată vârstei, genului și activității fizice pe care o realizează zilnic.

Étude sur le développement des ecolieres surpoids morpho-fonctionnelles des ecoles secondaires introduction au moyen d'adaptation en leçon de l'education physique

Mots-clés: paramètres somatiques-métriques, de remise en forme, le développement morpho-fonctionnelles, la surcharge pondérale.

Sommaire: Particularités âge pubertaire morpho nous conduit à considérer cette étape de la vie comme l'un des plus favorables de développement des qualités du moteur. Est-ce un besoin de mettre en œuvre des programmes chez les adolescents roumains pour les aider à avoir une attitude réaliste, sur leur propre poids et acquérir des connaissances et compétences nécessaires pour leur permettre d'adopter un mode de vie sain et à atteindre un poids idéal.

Les programmes scolaires devraient inclure des classes d'éducation sanitaire qui sont expliqués et illustrés les principes d'une saine alimentation, de l'école primaire et se poursuit au moins jusqu'à l'école secondaire.

Les programmes éducatifs doivent contenir des messages clairs sur l'importance d'adopter un style de vie active à la pratique d'activité physique régulière, qui doit être accompagnée d'une alimentation équilibrée, l'âge approprié, le sexe et l'activité physique qui a fait tous les jours.

IMPORTANCE OF ATTENDING A TRAINING OF TRAINERS PROGRAM FOR TEACHERS OF PHYSICAL EDUCATION

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Abstract: Currently, Romania is facing a time of profound transformation, both by reforming various fields and through the global economic crisis that has strong effects over the Romanian society.

Regarding the education system from Romania the situation is more delicate, taking into account the target segment and the new education law (Law 1 / 2010) that manages to "disturb" a field that was very stable in the past, both regarding job security and an education system which, with good and bad things, maintained Romania among the countries with a good international representation in this field. The purpose of a training program in physical education should be to launch on the labor market qualified teachers

who also know the provisions of the new education law from Romania as well as the importance in aligning the education system with international requirements. Achieving these goals will be possible only in the context of long life learning stipulated in the law so that those who teach to get the latest methods of teaching and training.

Keywords: training of trainers, physical education, the goals.

Content

Training of trainers is the activity of initial and continuing training of teachers, designed and made, usually in the education system.

Training concept defines a "social action vital, essential, incorporating inter alia, education, instruction and education without reducing them." With post modern pedagogy, training becomes an intrinsic dimension of the system design activity curriculum and educational process. Continuous training of teachers is the solution adopted in the structural systems employed in modern educational reform.

Training activities teachers undertake two complementary actions:

- an act of renewal and improvement of professional practice by updating the knowledge acquired during initial training;
- an action aimed at retraining in new skills including obtaining diplomas validated.

The action design a training program for trainers have started to look to identify training needs. Identification of training needs analysis of the socio-economic needs in general and program area which is addressed in particular.

Entry into force of the new education law introduces several structural changes, background, in the Romanian education, leading to reconsider the status of both teachers and the beneficiary of their work, pupils and students. As a result of the need to align the requirements of the new law is necessary to implement training of trainers so that their work in practice wishes poatăpune education law.

As is evident from the above we can conclude with certainty that there is a current need for training and is absolutely necessary to develop programs for training of trainers in all areas of activity in general and especially in education. Identifying training needs leading to the next step in designing a training program that is defining the training requirements.

Defining training requirements for physical eduacție is closely correlated with the curriculum content specific to each class of pupils (students) on profiles and specializations, as eleprevăzute in the current education law. Acentuarea aspect of the activity centered on student needs a more complex approach of teaching so that we can align with international requirements in education, giving a further chance astfe needs Romanian school graduates.

The new division of undergraduate education (see law 1/2011 Article 23) determines

large changes in the current structure of the education system in Romania. "Article 23:

The national pre-university education comprises the following levels:

a) early childhood (0-6 years), consisting of the anteprescolar (0-3 years) and preschool education (3-6 years), which includes junior, middle group and large group;

b) primary education, including pre-school class and the classes I-IV, c) secondary school, which includes:

➤ lower secondary or secondary education, with classes V-IX;

➤ upper secondary or high school classes X-XII/XIII high school;

c) the following branches: theoretical, vocational and technological

d) vocational education, lasting from 6 months to 2 years; e) nonuniversitar tertiary education, including post-secondary education.

f) secondary education, vocational and technological, vocational and secondary education qualifications and specializations are organized for the Ministry of Education, Research, Youth and Sport, in accordance with national register of qualifications."

Also nr.1/2011 National Education Law, Article 77 and Article 78 shall be made a series of changes in the organization of the baccalaureate.

Arrangements for filling positions in education, board structure, are so many aspects to be taken into account and require training on other bases as future teachers in the context of current and near future changes (art.88, 89, 90, 91 nr.1/2011 law).

The idea of the above, both current teachers and those who embrace the future, this trade should, in addition to a good professional to complete the "arsenal" of teaching with the latest news both in terms of new requirements arising from the purpose to be pursued, and in terms of new student-centered teaching methods. It is also necessary to review the use of public instruction and assessment (within the meaning of their modernization) in order to be offered to students and stdenților all elements allowing them the potential of both everyday life and beat the prospect of teaching in education.

Develop a training program aims to build on it and that it proposes. Once established can move aims to establish methods and means by which to achieve the expected result.

Achieving the aims proposed by the training program involves the means and methods to be used.

In addition to traditional methods considered mandatory application of new teaching methods are applicable strictly to physical education.

Subject to the above you still drawing a draft version of the training program for trainers:

Training programme (model)

Crt. No.	TOPIC	No. of hours	CONTENT
1.	Law 1/2011 presentation of new changes and requirements of the education law, physical education field	2	<ul style="list-style-type: none"> ▪ New levels. ▪ The place of physical education in the curriculum ▪ How to maintain continuity (transition) from one level (cycle) to another. Types of assessments ▪ Completion of High School studies ▪ Bologna system – High School education, university, master and PhD programs
	Debates on this topic	2	Points of view
2.	Modern versus traditional methods for teaching and training in education	2	<ul style="list-style-type: none"> ▪ Traditional methods. ▪ Modern methods. ▪ Compatibilities and differences. ▪ Combined methods of teaching borrowed from other fields. ▪ Efficiency of teaching methods as evaluating vector.
	Applicability in physical education field.	2	<ul style="list-style-type: none"> ▪ Case study. Proposals
3.	Using technology in teaching; new methods and tools in teaching/ training	2	<ul style="list-style-type: none"> ▪ Using of information systems in physical education ▪ Organizing information in order for the learning process to become accessible through modern teaching systems (power point, video, etc.).
	Information and communication options.	2	<ul style="list-style-type: none"> ▪ Initiating a discussion forum
4.	Reference systems in physical education and sport at international level	2	Other university systems.
	Debates	2	Comparisons between other worldwide education systems and Romanian system (advantages, disadvantages) Points of view regarding the future of the education system from Romania, in general, and physical education and sports in particular
5.	Offer and demand on the labor market regarding the employment in physical education field.	2	Concrete information regarding the employment possibilities in this field.
	Methods and requirements for participating in competitions for getting a position in the education field.	2	Questions and answers generated by analyzing the ways of applying and participating in teaching positions competition.

To design a training program is to achieve the following objectives:

- the ability to provide those interested in the certification training complex;
- development of specific skills among students, related professional trainer status, design, development, organization, implementation and evaluation of training programs;
- strengthening the body of professionals active in the training programs conducted at the highest standards of quality;
- validation of a functional model based on collaboration and partnership, training for trainers of trainers.

Conclusions

- The opportunity for graduate students, and not only to qualify and refine that:
 - trainers;
 - trainers / specialiști training and professional development;
 - program coordinator / training projects;
 - human resources secretary.
- Expanding the skills and ability to find various jobs.
- Create a database of useful information and can then promote their values.
- Increase awareness at national level which will determine long-term positive effects on physical education and beyond.

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Education law 1/2011

L'importance du suivi d'un programme de formation des formateurs par les professeurs d'éducation physique

Résumé: Actuellement, la Roumanie passe par un moment de profonde transformation, par la réforme de divers domaines et aussi par la crise économique mondiale qui a des forts effets sur la société roumaine dans son ensemble. En ce qui concerne l'éducation en Roumanie, la situation est plus délicate, étant donné le domaine concerné, et la nouvelle loi de l'éducation (loi 1 / 2011) qui réussit à "troubler" une zone caractérisée, dans le passé récent, d'une très grande stabilité, autant en termes de sécurité d'emploi et aussi au point de vue

d'un système éducatif qui, avec des bonnes et des mauvaises, a maintenu la Roumanie parmi les pays avec une bonne représentation internationale dans le domaine. Le but d'un programme de formation dans le domaine de l'éducation physique doit être de lancer sur le marché du travail des enseignants ayant une solide formation, une connaissance approfondie des dispositions de la nouvelle loi de l'enseignement en Roumanie, en harmonisation avec les exigences internationales en matière d'éducation. La réalisation de ces objectifs aura lieu dans le contexte de l'apprentissage continu, prévu dans la loi, ainsi, ceux qui éduquent possèdent les plus nouvelles méthodes d'enseignement et de formation.

Mots clé: formation des formateurs, éducation physique, finalités.

Importanța parcurgerii unui program de formare de formatori de către profesorii de educație fizică

Rezumat: Actualmente România trece printr-o perioadă de transformări profunde, atât prin reformarea diferitelor domenii de activitate, cât și prin prisma crizei economice la nivel mondial care are efecte puternice asupra societății românești în ansamblul ei.

În ceea ce privește învățământul din România situația este și mai delicată, ținând cont de segmentul vizat, iar noua lege a educației (legea 1/2010) reușește să "bulverseze" un domeniu caracterizat în trecutul nu foarte îndepărtat printr-o mai mare stabilitate, atât în ceea ce privește siguranța locului de muncă, cât și a unui sistem de învățământ care, cu bune și cu rele, a menținut România printre țările cu o bună reprezentare internațională în acest domeniu.

Finalitatea unui program de formare în domeniul educației fizice trebuie să fie aceea de lansare pe piața muncii a unor dascăli cu o solidă pregătire profesională, o cunoaștere temeinică a prevederilor noii legi a educației din România precum și obligativitatea alinierii cerințelor internaționale privind învățământul. Realizarea acestor deziderate nu se va putea face decât în contextul învățării permanente stipulată în lege astfel încât cei ce educă să posede cele mai noi metode de predare și instruire.

Cuvinte cheie: formare de formatori, educație fizică, finalități.

NONFORMAL PHYSICAL EDUCATION - IMPORTANT FACTOR IN CHANGING THE ATTITUDE OF THE YOUNG GENERATION TOWARD LEISURE

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Abstract: In modern society where values and lifestyle change easily, the institution of family, school and society in general should make a priority of educating young people in the spirit of discipline and balanced life. Attracting young people towards physical education and sports in their spare time has numerous long-term advantages, and

contributes to the development of both physically and psychically healthy generations, more capable to handle the ever-increasing challenges of present day. The main purpose of these systematic, individually practiced activities is to increase the biological potential that is instrumental in attaining optimal health, mixing short-term satisfactions with long-term benefits.

Keywords: *nonformal physical education, health, leisure, life style, quality of life.*

The physical education of young generation represents one of the basic elements of the educational system. It helps in preparing capable, healthy, and strong youths, able to integrate into modern society. The foundations of their ability to practice physical exercises independently are laid out during pre-university education, in a scientific manner that continues in higher education. In school, students need to acquire the habit of practicing physical exercises, to build positive attitudes towards physical activity, to understand the importance of driving activities for both their health and for their physical and personal development, and to understand the necessity of lifelong exercise. Enhancing the physical education frame in school to a wider, non-formal or informal format, is a response to the need to promote physical exercise, through the practice of physical education activities, for health and recreation, as a way of spending leisure time by the young generation.

Health as a complex bio-psycho-social problem cannot be achieved only by the medical system which according to some international statistics, has limited impact in maintaining it, only 11-12%. The socio-economic situation of the population, quality of the environment, food, lifestyle, education and not least physical activity are equally important determinants of health. Health education is tightly connected with the practice of physical education and sports and represents a branch of medicine that strives to develop a certain level of health culture and the necessary means for the development of a sanitary behavior. One of the key objectives of health education is to bring about positive change in behavior, attitude, and lifestyle of the population.

Numerous international and Romanian studies show that although we know the positive influences of exercising for the body, many people spend little leisure time for the benefit of their own health.

In 2004 the *Study on Young Peoples' Lifestyles and Sedentariness and The Role of Sport in the Context of Education and as a Means of Restoring the Balance* (2), commissioned by the European Union and conducted by two German authors, Brettschneider, W. and Naul, R. in cooperation with specialists from England, Portugal, Denmark, Finland, Lithuania, Sweden, Czech Republic, Holland and Belgium, aims to examine the sedentariness and life style of young Europeans, and the role of physical activity in the context of education as an effective means of

shaping the personalities of young people, and generally restore balance in the lives of future adults. The research revealed that only 30-40% of young people exercised at least 30 minutes every day. Another study conducted in Finland in 2007 on a large number of adolescents indicates that both childhood and adolescence are important steps in adopting physical activity as a lifestyle later in adulthood.

We live in a dynamic, constantly changing society which requires a certain physical, intellectual, moral, and civic configuration, a profile that must balance all sides of our personality. We need healthy people, harmoniously developed physically, with creative thinking and the ability to select information and to choose the best solutions. In modern society where values and lifestyle change easily, the institution of family, school and society in general should make a priority of educating young people in the spirit of discipline and balanced life

In this context, education becomes a decisive factor in training young people by preparing them not only to be consistent with the transformations of society, but especially to model them so that they can anticipate these changes.

The phrase *healthy lifestyle* is an important component of health concepts and the approach of such a lifestyle involves reducing risk behaviors (drug, alcohol, tobacco, etc.), engaging in sport and recreation activities, healthy eating etc. A healthy lifestyle is always associated with good health and an active life.

From this perspective, physical activity is a component of active life, an „important part of lifestyle which implies exercising a few times a week in a way that is satisfying and consumes energy” (3).

Leisure time consumed by practicing various physical activities and sports, creating an educational climate that motivates young people to exercise, train and develop attitudes of responsibility towards their own development and health, is a major permanent goal of specialized teachers.

Called *leisure* in England, *free-time* in the U.S. and *loisir* in France, leisure is „that part of time outside work” that according to Dumazedier has three main functions: recreation, entertainment and cultural development of personality.

No matter how it is defined „civilizable resource in the ethos of human action (Neacșu 2010, p. 298), or „the time left available, after conducting professional activities, which is used

for study, cultural events, sports, entertainment, relaxation" (Cârstea 1995), leisure time is constantly growing. It may be a source of progress, but also a cause of degradation and social and personal decline, and education can and must ensure its efficient use, and wherever there is, at home or at school, this process must „contain values, have meaning and human significance" (Neacsu, 2010, p. 297).

The society offers many leisure options. Therefore, the young generation should be oriented towards those activities beneficial from a social or personal perspective. In today's world that has become dependent on computers and television, the need to exercise becomes increasingly obvious. In this context, physical education has the primary objective to attract youths and beyond, to the halls and sports grounds, rethinking the role that physical exercise has in maintaining a healthy lifestyle and an active life.

Physical education and sports carried out informally are characterized by spontaneity, attractiveness, freedom, being a pleasant way of relaxation and entertainment for practitioners. They earn new meanings in the sense of combating the undesirable effects of sedentary lifestyles, stress, burnout, over eating.

It is important to provide a strong motivation for carrying out these activities and the means by which to ensure this are diverse. For young people to want to spend leisure time actively by practicing different sport activities, it is necessary that the main educational factors, school and family, give great importance to how this time is spent. Attracting young people towards physical education and sports in their spare time has numerous long-term advantages, and contributes to the development of both physically and psychically healthy generations, more capable to handle the ever-increasing challenges of present day.

There are a few significant tools of educating youths in spending leisure time namely: the example of parents, teachers, and athletes, as well as ensuring greater diversity of choices for exercising through physical education and sport activities (organization of sport competitions, trips, sport clubs etc.). Although at first these may seem less attractive, repeated activities can form positive attitudes towards sports and physical exercise. It is important to pursue young people to participate in physical activities to counteract the effects of sedentary lifestyles, to cultivate a constant interest in exercising and sports, and to understand that physical activity promotes opportunities for fun, useful and enjoyable ways of spending free time and not least, social networking. Therefore, non-formal physical education activities can contribute to young peoples' learning of various ways of organizing and spending leisure time, identifying and cultivating optimal correspondences amongst their interests, skills, talents, and also finding opportunities to practice and develop them.

Young people and others must be encouraged to practice various forms of sport activities in their leisure time according to their individual needs or purposes. As previously mentioned, the purpose of these personalized activities practised in a systematic way, is to increase the biological potential that is important for ensuring optimal health and both short term satisfaction and long term benefits. Having a positive attitude towards exercise and a minimum daily exercising routine have important health benefits and lay the foundation for an active life, help prevent certain diseases and increase longevity, and contribute to better professional and social integration.

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Educația fizică nonformală – factor important în schimbarea atitudinii tinerei generații față de petrecerea timpului liber

Cuvinte cheie: educație fizică nonformală, sănătate, timp liber, stil de viață, calitatea vieții

Rezumat: În societatea actuală în care valorile și stilurile de viață se schimbă cu ușurință, educarea tineretului în spiritul disciplinei, a unei vieți echilibrate, ar trebui să devină o prioritate a școlii, a familiei și a societății. Atragerea tinerilor spre activități de EFS în timpul lor liber aduce numeroase beneficii pe termen lung și contribuie la creșterea și dezvoltarea unor generații sănătoase din punct de vedere fizic și psihic capabile să facă față exigențelor sporite ale societății. Scopul acestor activități practicate personalizat, dar sistematic este de a mări în principal potențialul biologic, determinant pentru asigurarea unei stări optime de sănătate, satisfacțiile de moment îmbinându-se cu beneficiile pe termen lung.

L'éducation physique nonformelle – facteur important pour changer l'attitude de la jeunes generations vis-à-vis de loisirs

Mots - clés: l'éducation physique nonformelle, santé, loisirs, style de vie, qualité de vie

Dans la société actuelle où les valeurs et modes de vie évoluent avec aisance, éducation des jeunes dans esprit de discipline, une vie équilibrée, devrait devenir une priorité pour école, la famille et la société. Attirer les jeunes vers des activités dans leurs loisirs EFS apporte de nombreux avantages et contribue à la croissance à long terme et au développement d'une génération en bonne santé physiquement et mentalement, apte à faire

aux exigences accrues de la société. Le but de ces activités pratiques sur mesure, mais systématiques, est d'accroître principalement le potentiel biologique,

déterminant pour assurer l'état de santé optimal, les satisfactions de moment se mêlant aux avantages à long terme.

MEAN OF OVER (SUPRA) MAXIMAL RUNNING SPEED IN SPRINTER TRAINING

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Abstract: In the article author's present results of long-term research aimed at the maximal running speed development with use of the supra-maximal speed means. They succeeded to establish the optimal pulling force (20 – 40 N) that enables to reach 105 – 108 % of the maximal running speed. In this speed the kinematical parameters between maximal and supra-maximal speed do not differ considerably and this secures their optimal transfer into competition activity. Authors proved that there can be different effects on sprinters according stimulus magnitude of supra-maximal speed, but also according individual specialities of adaptation sprinters' reaction.

Key words: maximal speed development, supra-maximal running speed, kinematical parameters.

Introduction

At present the development of speed abilities is very topical problem of the sport theory and practice. During speed abilities development we must realise that "speed is mostly developed by speed." That's why the most effective and most frequent method of the speed abilities' development is the repetitive method in maximal intensity. One of possibility for the maximal running speed development is the use of the contrast method, substance of which deals in the intentional change and combine (natural, easier, more difficult) of the speed exercises' performance.

The creation of easier condition for the motor activity realisation is enabled by changing of several parameters which is manifested in reaching higher than maximal speed in natural conditions. We talk about over maximal at present termed like over limited or supra-maximal speed. The sport practice confirmed the reliability and efficiency of the use of the supra-maximal speed means, but in parallel demanded to ask more exactly ways for its application. From the position of supra-maximal speed means' use there is a valid recommendation of Chomenkov (1974), Naglak (1974) and some others, that easier conditions can be done only up to the level that enable to reach such a speed which is the runner able to reproduce in natural conditions in the short period.

There was confirmed (Holland, 1984; Bosco – Vittori, 1986; Mero and all, 1987; Kampmiller – Sedláček, 1988; Mero – Komi, 1990; Dintiman and all, 1997; Vanderka, 1998; Sedláček et al 2004) the different dynamism of kinematical parameters changes during the running increase of

speed. For example on the running speed rise share stride length and stride rate but in higher velocities their relationship changes at undesirable way.

Many researchers and coaches confirmed the positive influence of supra-maximal speed means' use for the maximal running speed changes. But there can be said that the sport practice has not till now available rounded-off, scientifically justified methodology of the supra-maximal speed means' application.

Purpose

The purpose of research is to explain kinematical structure changes of running in supra-maximal speed level and on this basis contribute for making optimal methodology of stimulus application.

Methods

Regarding the variety, demands and logical link-up of tasks solution we had to work with several groups in longer period.

Groups differed in quantity, the level of their preparation and sport performance. Members of groups ($n = 57$) were short distance runners (100 – 400 m), who were in the phase of special and top-level sport preparation. Their age ranged from 14 to 31 and sport performance in 100 m from 11,90 s to 10,90 s.

Tests were performed in relatively stable conditions of Bratislava indoor stadium.

The maximal running speed was learned in the run of 20 m flying start with 20 m approach. On the same distance the sprinters passed the supra-maximal speed run. The reach of it was enabled with help of pulling appliance known as SPEEDY (fig. 1). The runner "pulling athlete" by the force of his pull and by the mean of a single

pulley quickens the partner who reaches double velocity. The substitution of fixed anchor by mobile enabled us later to regulate pulling force. The pulling forces of 20, 30, 40 and 50 N were applied.

For detecting and processing basic kinematics characteristics of sprinters motor activity during the maximal and supra-maximal speed running we employed the measuring instrument "Locomometer" (Kampmiller – Holček – Šelinger, 1993; Šelinger – Holček, 1993). The system works on-line, and basic parameter processing is available 1 min. after finishing tested run.

We worked with following parameters:

- average and immediate running speed,
- stride rate and length,
- time periods of single steps, their contact and flying times,
- derived parameters for example technique stability expressed by variance and standard deviation of measured values, effectiveness given as a rate of flying and contact time, activity given by rate of stride length and lasting of contact time etc.

During processing of the parameters we used logical methods, and methods of mathematical statistics. Reached empirical research results were confronted with other authors' results as well as practical coach experience.

Results and discussion

1. Changes of kinematics parameters of sprinter motor activity during supra-maximal speed running

We performed 143 measuring in natural and 85 in easier conditions. The use of the pulling appliance with fixed anchor did not enable us to define and stabilise the pulling force. That is why runners were reaching the different level of the supra-maximal speed.

The average time of the maximal speed running was 2,167 s and the supra-maximal speed 1,936 s. It means that sprinters reached on the flying 20 m run in easier conditions in average better time of 0,231 s that is they were faster at 10,66 % like in the maximal speed running.

The statistical characteristics of kinematics parameters of running in natural and easier conditions are presented in table 1. In the supra-maximal speed conditions can be seen considerably, statistic highly significant changes of all parameters apart from practically not changed stride rate. It means that higher speed was reached with runners only by stride length increase.

Further by the mean of the pair correlation analyse we were looking for the coherence between running speed and other parameters (fig. 2, 3, 4). In the natural conditions we did not confirm the significant relations of running speed with lasting of contact or flying phases, even with stride rate (fig. 2, 3, 4). Very small relationship we founded

only between the velocity and length of running stride. In easier conditions there is a clear tendency that faster sportsmen have shorter contact time (fig. 3) and closest relationship can be seen between the velocity and stride length (fig. 4). Except this we founded only insubstantial relationship between the velocity and stride rate (fig. 4) and the relationship of the velocity with time of lasting of flying phases did not reach statistic significance (fig. 2).

On the basis of positive changes of contact and flying times and stride length and vice versa practically unchanged stride rate as well as on the basis of relative high correlation between the supra-maximal speed and stride length, we suppose that in easier conditions runners were passive. The reach of higher quality in several parameters we explain mainly by the activity of outer force: pulling apparatus.

The pulling appliance on one side enables considerable increase of running speed but the kinematical structure of running is changed from the point of view of higher level of speed – strength co-ordination abilities in undesirable way. So called "live pulling" with the help of fixed anchor indicates various pulling forces and at the same time with the supra-maximal level speed increase (higher than optimal) becomes deeper the negative character of the several parameters' changes of movement activity (for example stride length).

2. Optimising of pulling force by the supra-maximal speed running application

In the first part of the solution of this problem we decided to apply the different approach from the view if finding trends of changes of selected kinematical parameters of running at various levels of supra-maximal speed.

With the members of the second group (5 competitors of master and first performance stage in short distance running) we performed 45 measurements in natural and 26 measurements in easier conditions.

On the figures 5 and 6 can be seen trends of kinematics parameters' changes of the maximal and supra-maximal speed running. On axis x there is expressed running speed of sprinters during 20m flying run, on axis y stride length and rate (fig. 5) and lasting of their contact and flying phases (fig. 6).

In natural conditions increases the running speed from 9 to 10 m.s⁻¹ in such a way that stride rate manifests from the start mild decrease and than sharply rises, the stride length has opposite tendency (increase and than decrease), contact phase shortens and flying phase has increasing and than decreasing course.

In conditions of running with pulling apparatus, when runners get into the zone of the supra-maximal speed 10 – 11 m.s⁻¹, becomes significant change - stride length increase, and the tendency is permanently graduating. Stride rate

does not change at all, has stabile character. Lasting of contact phase sinuously decreases and flying phase rises in the same way.

From the levels and tendencies of single kinematical parameters changes of running by their mutual comparison in natural and easier conditions comes out their controversial character. We confirm again that the supra-maximal running speed with the pulling apparatus is reached by substantial stride rise with simultaneous keeping the stride rate that presents controversial tendency in the comparison with running in natural conditions. This fact gives rise the question if from the point of view of motor learning and the theory of motor abilities development applied methodology of the supra-maximal speed running is effective or not.

In the second half of this problem solution we started to regulate the magnitude of pulling force by the use of the frictional mechanism with the help of the weight in the pulley "Speedy" appliance. Members of the third group (26 sprinters in age 14 – 18 years with the performance 11,9 – 11,0 s in 100 m run) passed except others 6 – 8 runs on 20 m from flying start in the supra-maximal speed with four increased pulling forces (20, 30, 40, 50 N).

The condition of making the pulling force optimal is connected with parallel creation of conditions for stride rate increase. From the methodical point of view we consider as a decisive not to pull the sprinter by too high force in order to be able to do movements actively with higher frequency on the whole covered distance. This way enables to improve co-ordination on higher speed level of single extremities and the centre of gravity. According performed measurements it seems to us that such an active choice in pulling conditions are able to realise sprinters at pulling force magnitude 20, 30 and sometimes 40 N. Higher force application negatively influences demanded stride rate rise, disproportionately lengthens stride, causes the passive tread-down and forces runners to keep attention to a safe realisation of movement activity.

We mean that in easier conditions is adequate the velocity 5 – 8 % higher than the maximal running speed. The aim of this training is even with help of relatively small pulling force to create faster co-ordination connection of neuromuscular apparatus and thus create dispositions for overcoming speed barrier. But even in optimising of pulling force we found inter-individual differences. As a significant we consider fact found that further stride rate increase in supra-maximal conditions are able to realise only those sprinters who dispose its high starting value as well as shorter time of stride contact phase. Stated problem is probably close connected with the level of special co-ordination abilities. We manifest it on the example of two runners. L.B. (fig. 7) had during natural conditions running stride rate 4,66

Hz and during supra-maximal speed conditions, with individually optimized pulling force 30 N, was able to reach it until 5,07 Hz. Further pulling force increase (40 N) led also at this sprinter to negative phenomenon in running structure that is expressed by frequency decrease. On the contrary at K.S. (fig. 8) with the higher pulling force the stride rate mildly but fluently decreased – from 4,14 Hz to 3,96 Hz by pulling force 50 N.

On the basis of above stated facts we consider as a rightful the demand to respect at the supra-maximal speed application also individual specificity of sportsmen. We suppose that for the sprinter with lower frequency abilities, the application of this method can have even negative influence on their technique. This is only hypothesis that ought to be verified in future research.

Conclusions

1. Kinematics characteristic of supra-maximal speed with extremely high pulling force has different character of changes comparing natural conditions. Sprinters in easier conditions act passively, they rely themselves on the outer pulling force's function. Higher velocity is reached by practically unchanged stride rate, exclusively by stride lengthening. Negative trend of changes of selected movement activity parameters is deepened with supra-maximal speed increase.

Mentioned facts indicate that there is a need of making optimal the stimulation from the point of view of motor abilities' development especially speed-strength and co-ordination.

2. Making more effective the application methodology of supra-maximal speed requires to make optimal the pulling force magnitude with parallel creation of condition for runner activity increase in order to be able to perform movements with higher frequency during the whole run.

For optimising the function contributes significantly the possibility of stimulus intensity regulation (magnitude of pulling force) of supra-maximal speed that is enabled by use of friction mechanism with help of weight in pulley appliance of accelerator "Speedy." Regarding the character of movement activity structure's changes and the individual sprinters' specialities (mainly stride rate magnitude in natural conditions) we consider as optimum pulling force 20 – 30 N, sometimes even 40 N, that is manifested by reaching 105–108% of maximal running speed. Higher force influence negatively demanded stride rate increase, causes passive step down, lengthen inaccurately stride and takes away runners' attention for the safe of movement activity realisation from the view of possibility of injury.

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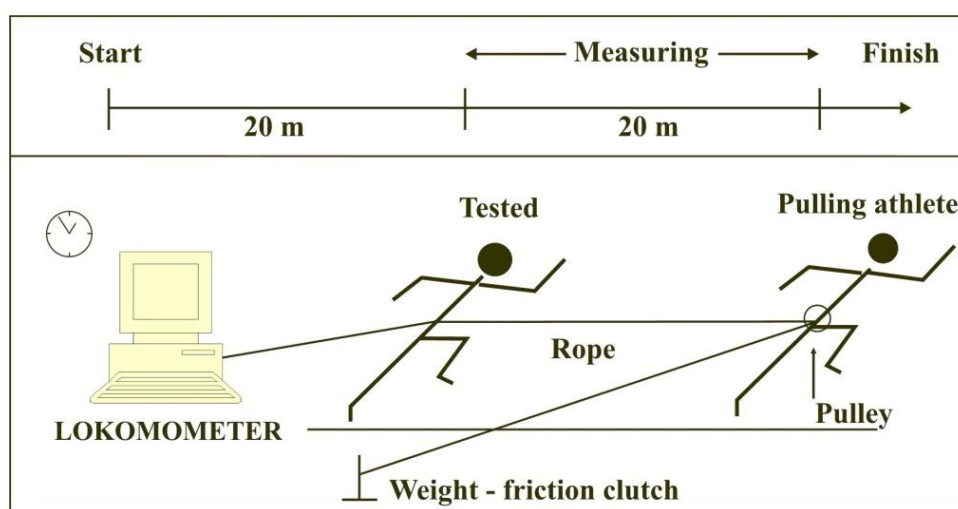


Fig. 1 Running methodology and supra-maximal speed measuring

Tab. 1 Statistical characteristics of kinematics parameters of maximal and supra-maximal speed running

PARAMETERS		Maximal		Supra-maximal		x1 - x2
		x1	s1	x2	s2	
Speed	[m.s ⁻¹]	9,23	0,27	10,33	0,39	- 1,100**
Contact time	[s]	0,113	0,008	0,105	0,008	+ 0,008**
Flying time	[s]	0,114	0,008	0,121	0,007	- 0,007**
Stride length	[m]	2,10	0,10	2,34	0,11	- 0,240**
Stride rate	[Hz]	4,41	0,18	4,43	0,17	- 0,020

Legend: ** p < 0,01 * p < 0,05

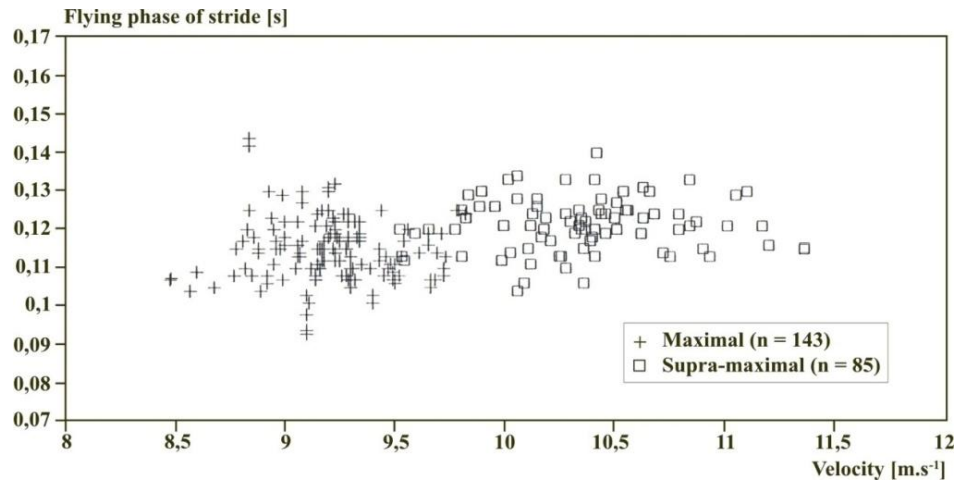


Fig. 2 Dependence of running speed and flying phase of stride at maximal and supra-maximal running speed

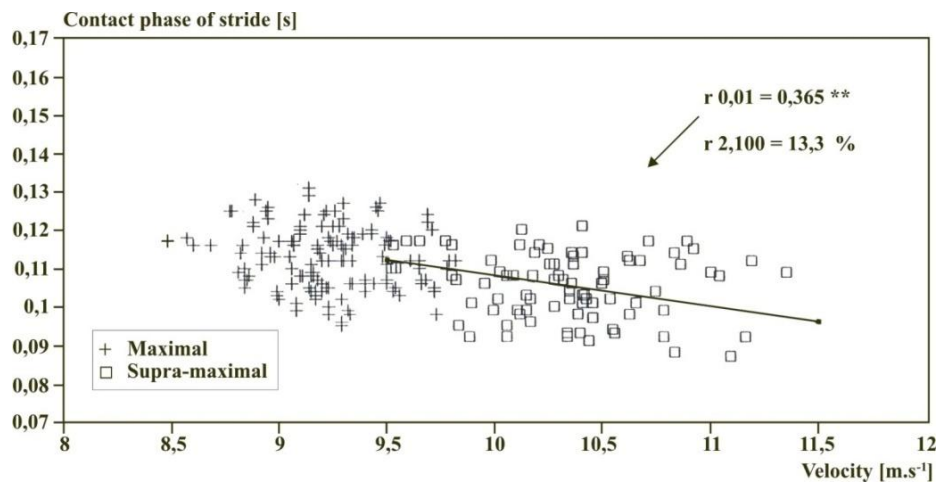


Fig. 3 Dependence of running speed and contact phase of stride at maximal and supra-maximal running speed

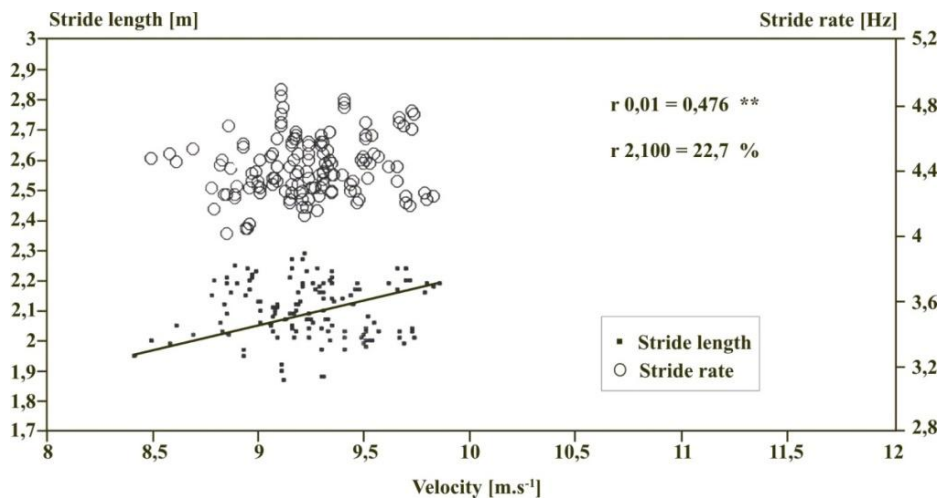


Fig. 4 Dependence of speed, stride length and rate at maximal speed running

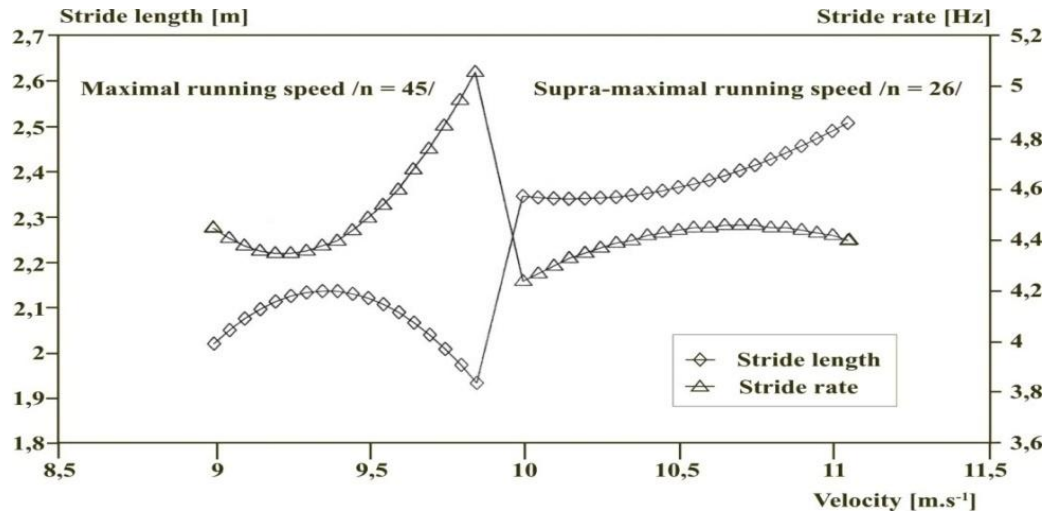


Fig. 5 Regression of kinematical parameters changes at maximal and supra-maximal running speed

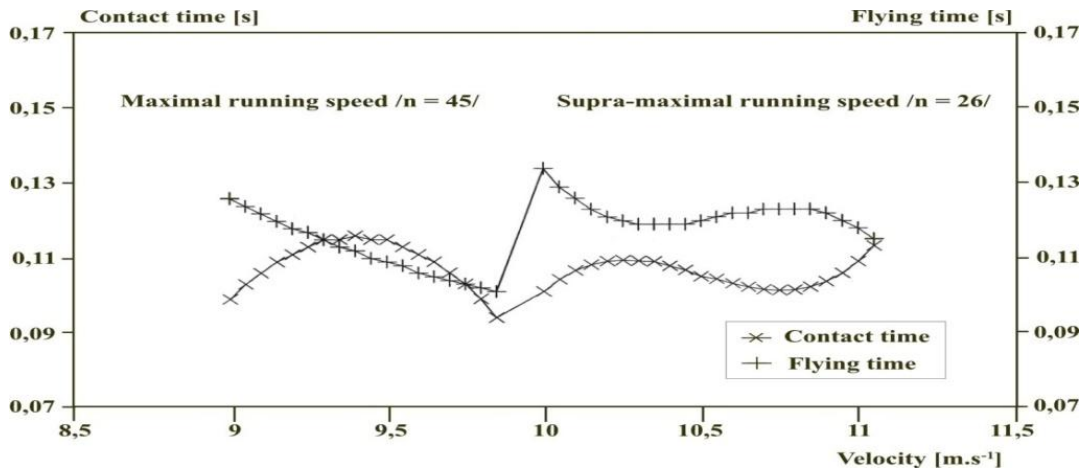


Fig. 6 Regression of kinematical parameters changes at maximal and supra-maximal running speed

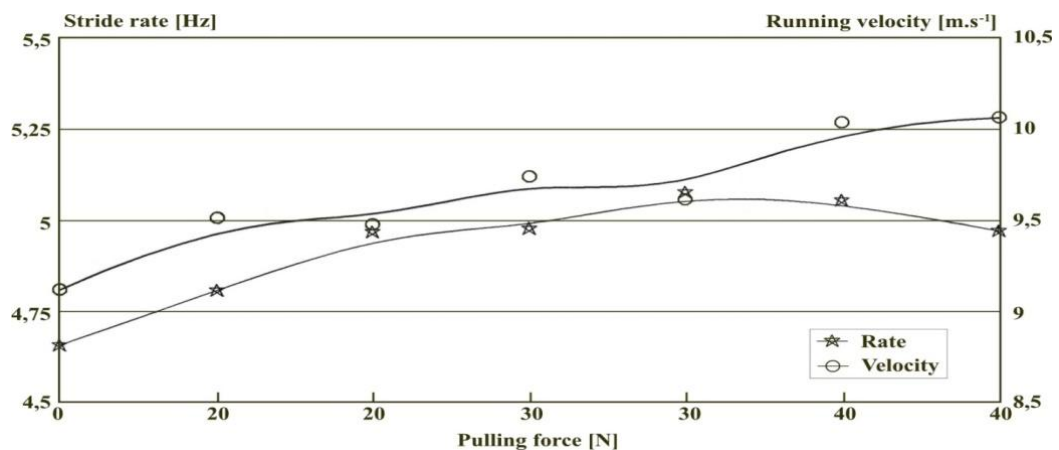


Fig. 7 Trends of running speed changes and stride rate at different pulling forces (runner L.B.)

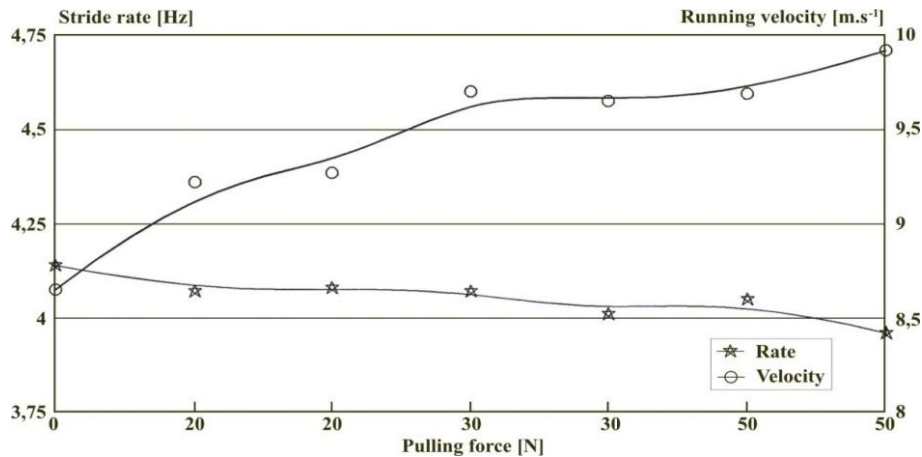


Fig. 8 Trends of running speed changes and stride rate at different pulling forces (runner K.S.)

DEVELOPING THE STRENGTH IN THE LIMBS USED IN BIATHLON, IN THE TOP PERFORMANCE GROUP GIRLS

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Abstract: The practical research was conducted on the top performance female athletes group of the Miercurea Ciuc School Sportive Club's biathlon section. This experiment aimed to emphasize how much the strength of the limbs determines the superior results in women's biathlon, influencing in the same way the performances regarding running, and the quick and precise shooting in the shooting range.

Keywords: strength, limbs, biathlon, top performance group.

Introduction

The improvement of sports training has been a constant preoccupation, declared or not, of the specialists, being regarded as a pedagogical process subordinated to certain objectives concerning top athletic performance. Following closely the 3 parameters conditioning the biathlon top performance: the ski running time having the rifle in the back, the stopping time in the shooting range, and the results of the shootings, we set ourselves to make an exact assessment of the effects of the current and cumulative trainings for developing the strength in the limbs used in biathlon in the top performance group girls, observing both the progress factors, and the elements leading to the training's effectiveness.

Research hypothesis

The problem of the biathlon athletes' training for the cross-country biathlon events constitutes a systematic preoccupation for the Romanian specialists, for several years. Taking into consideration the statements above, our working hypothesis is based on the following assumption:

1. The biathlon superior results are determined, mostly, by the skiing

performances, as well as by the quick and precise shooting in the shooting range, both being determined, in a large part, by the strength of the limbs.

Subjects and conditions of the research

The practical research was conducted on the top performance female athletes group of the Miercurea Ciuc School Sportive Club's biathlon section.

The subjects of the research were divided in 2 groups:

1. the experimental group, comprising the female athletes: Benedek Gyongy (BG), Endre Maria (EM) și Santha Szabolcs (SS);
2. the control group, comprising the female athletes: Xantus Biborka (XB), Tofalvi Eva (TE) și Xantus Csilla (XC).

Conducting the research

Before starting the experiment, we elaborated certain training plans (annual, stage, cycle) that we consider to be actually a "Training model". In the next page we present a "Weekly Cycle" that we elaborated and used in our research.

Weekly Cycle

TRAIN.	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Train. 1 A.M. 7.⁰⁰-8.⁰⁰	I.G. Resp. ex. 10 min Gen. strength 40 min Gym-Mob. 10min	I.G. Resp. ex. 10 min Gen. strength 40 min Gym-Mob. 10min	I.G. Resp. ex. 10 min Gen. strength 40 min Gym-Mob. 10min	I.G. Resp. ex. 10 min Gen. strength 40 min Gym-Mob. 10min	I.G. Resp. ex. 10 min Gen. strength 40 min Gym-Mob. 10min	I.G. Resp. ex. 10 min Gen. strength 40 min Gym-Mob. 10min	Free
Train. 2 A.M. 9.⁰⁰-12.⁰⁰	I.A.u. Track profile Cross OS 12 km 12x100m imit.poles 12x2min imp elastic Shooting 80 shots R.A.u. 3km Gym – mob.	I.A.u. Track profile Cross OS 12 km Cross OLA 12x500m R.A.u. 3km Gym – mob.	I.A.r. Track profile Roller skis OR10x1km Cross OR 10x100m 10x2min+10x2min elastic+10x300m (strength var.terr.) Shooting 80 shots R.A.u. Gym – mob. 20 min	I.A.u. Track profile Cross OS 6 km Cross OLA 12x500m Shooting 80 shots R.A.u. 3km Gym – mob.	I.A.r. R3,4 Track profile Cross OS 22km Shooting 100 shots R.A.u. 3km Gym – mob.	I.A.r. Track profile Roller skis OR12x1km Cross OR 10x100m 10x2min+10x2min elastic+10x300m (strength var.terr.) Shooting 80 shots R.A.u. Gym – mob. 20 min	I.A.c. Cycling OS 50km
Train. 3 P.M. 16.⁰⁰-18.⁰⁰	I.A.u. R 4 Track profile Cross OS 8 km Strength 5x8apx50sec Cross OS 3 km R.A.u. Gym – mob. 20 min	I.A.u. R 4 Track profile Cross OS 10 km 12x2min imp elastic Shooting 50 shots (standing) R.A.u. Gym – mob. 20 min	I.A.c. Cycling OS 40km	Cooling down Sauna Swimming Massage	I.A.u. R 4 Track profile Cross OS 8 km Strength 5x8apx50sec Cross OS 2 km R.A.u. Gym – mob. 20 min	I.A.c. Cycling OS 40km	Free
OS	25	22	14	9	29		50
OR	2		40				
OLA		6		6		56	
TOTAL	27	28	54	15	29	56	50
SHOOTING	80	130	80	80	100	80	

Data presentation and analysis

Table 1. Test for the maximum strength in the lower limbs during different speed conditions - T.E.

	K=75	K=300	K=300	K=300	K=300
Parameter/stage (m/s)	0	1.5	3	4.5	5.5
Strength d (daN)	5.12	4.69	1.51	0.51	0.63
Strength s (daN)	5.44	4.67	1.78	0.43	0.48
Power d (W)	49.52	64.85	26.54	5.48	9.09
Power s (W)	48.6	67.13	36.03	6.83	6.84

Chart 1. Maximum strength during different speed conditions (inferior limbs)

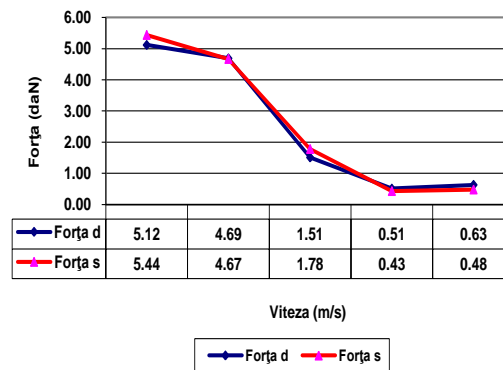


Chart 2. Maximum power during different speed conditions (inferior limbs)

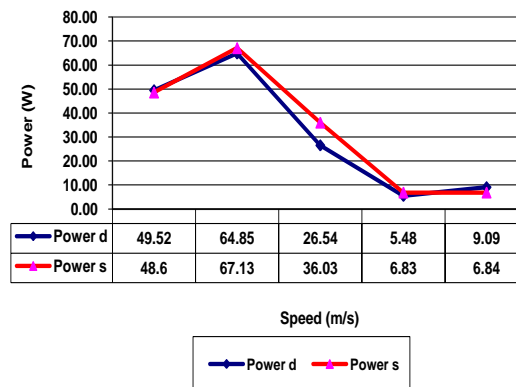


Table 2. Test for the maximum strength in the lower limbs during different speed conditions - B.G.

	K=75	K=300	K=300	K=300	K=300
Parameter/stage (m/s)	0	1.5	3	4.5	5.5
Strength d (daN)	5.95	4.85	0.20	0.24	0.31
Strength s (daN)	4.54	3.92	0.65	0.38	0.37
Power d (W)	57.64	66.36	5.00	4.38	6.62
Power s (W)	43.33	53.79	13.89	6.83	6.35

Chart 3. Maximum strength during different speed conditions (inferior limbs)

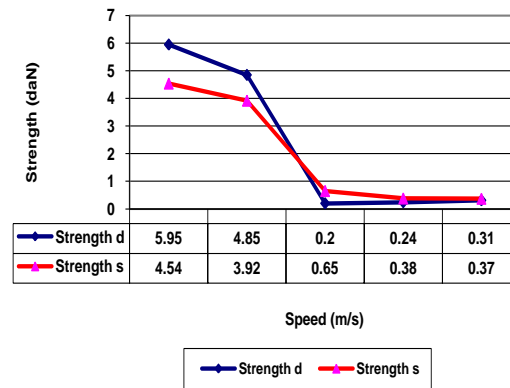
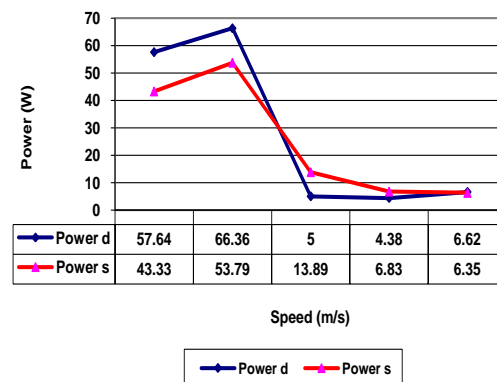


Chart 4 Maximum power during different speed conditions (inferior limbs)



Data interpretation

Subject T.E. :

• dominant features regarding training individualization:

- the necessity of developing the strength in the arms and lower limbs, especially the latter;
- correcting the working stereotype for the lower limbs, (they are not flexed enough, which determines a drop in the pushing amplitude, in comparison with the athletes' abilities, and in the development and manifestation possibilities of the strength at this level);

Arms:

- a relatively good level of the maximum strength for the first speed stage (difficult climb), corresponding to the training period;
- an accentuated drop in the strength, from stage 1 to stage 2, and from stage 3 to stage 4 - confirmed by the power chart;

- relatively balanced in the two arms;
- it is necessary to work the maximum strength, especially for the 1.5 m/s (semi-climbing portions) speed domains, and 4.5 m/s (dash - semi-descent);

Legs:

- the strength in the legs in the first speed stage is disproportionately low in comparison with the strength in the arms;
- she attains maximum strength in the first speed stage (1.5 m/s), followed by a very pronounced drop at 3 m/s (light semi-climbing);
- relatively balanced also in the lower limbs;
- we suggest that the training should insist on the strength during 3 m/s and 4.5 m/s speeds.

Subject B.G. :

• dominant features regarding training individualization:

- the necessity to increase the strength and the balance, both in arms and in legs;

- improvement of the arm-leg coordination.

Arms:

- low strength in all speed stages;
- asymmetry in the manifestation of the strength in the two arms;
- good possibilities for strength manifestation during speed, illustrated by the maximum power during different speed conditions chart;
- we suggest that during training the accent should be put on developing maximum strength in all speed stages, balance of the arms and legs strength, and coordination of arm movement during simultaneous pushes.

Legs:

- strength asymmetry, the left limb being weaker in the first two speed stages, while the right limb was weaker in the stages 3 and 4;
- we suggest that the training for the legs strength should envisage the balance of the two limbs and to increase the strength in all speed domains.

Conclusions

Following this experiment, we could draw several general conclusions:

1. the necessity of developing the strength in the arms and lower limbs, especially the latter, in all the top performance group girls;

2. correcting the working stereotype for the lower limbs, a stereotype that determines a drop in the pushing amplitude, in comparison with the athletes' abilities, and in the development and manifestation possibilities of the strength at this level;
3. elaborating a strategy regarding the development of strength in the limbs, in women's biathlon, presupposes a larger discussion that has to start from the percentages and the ratio between the aerobic, lactic anaerobic, and alactic anaerobic processes.

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Dezvoltarea forței membrilor în biatlon pentru fetele din grupa de performanță

Cuvinte cheie: forță, membre, biatlon, grupa de performanță.

Rezumat: Cercetarea practică s-a desfășurat la sportivii din grupa de performanță (fete) a secției de biatlon de la Clubul Sportiv Școlar Miercurea Ciuc. Prin acest experiment am dorit să evidențiem în ce măsură forța membrilor determină obținerea unor rezultate superioare în biatlonul feminin, influențând în aceeași măsură performanțele în alergare, cât și tragerea rapidă și precisă în poligon.

LINEAR KINEMATIC ANALYSIS OF GYAKU-TSUKI KARATE TECHNIQUE

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Abstract: The aim of this study is to describe the temporal relationship of the joints velocity which contributes to a Gyaku-Tsuki karate technique performed by an elite athlete. An elite female athlete performed 6 trials of punch which are recorded and analyzed by means of advanced VICON mocap technology. The analysis reveal that reverse punch conforms to model for producing maximum velocity by sequential pattern of joints action, characterized by peak linear velocity of hip, shoulder, and wrist joints occur in proximal-distal order.

Keywords: reverse punch technique, joint pattern, joint velocity.

Introduction

The Gyaku-Tsuki, also named reverse punch, is a technique commonly used in karate kumite, a form of competitive fighting. The objective of a punch is to hit

the opponent at a controlled distance in a short time possible, with maximum force production (Nakayama, 1983, Okazaki, 1984). Punching consist of the rapid execution of a sequence of body movements.

Some previous studies in biomechanics of karate field have analyzed the kinematics of reverse punch, in order to find the way of maximum speed production in the striking limb (Stull and Barham, 1988; Emmermacher et al., 2005; Hofmann et al., 2008). These are investigated the relative timing sequence of peak velocities of the executed reverse punch. By digitized multiple joint velocities (ankle, knee, hip, shoulder, elbow and wrist), different times for peak velocities of joints which occur at different percentage of total time movement are founded. The conclusion for all was that the key to obtain the maximum velocity was the sequence of joints action with correct timing. This goal can be reached by bringing into play each new body segment involved in movement at the greatest velocity of the previous part, in a proximal to distal order (kinetic link model of movement). This model of joint action pattern is a sequential one (Bartlett, 2007), and contrast with the simultaneous joint action pattern applied in box.

Methodology

A motion capture experiment for collection of kinematic data was performed in the Laboratory for

Computer Animation from Media Institute of Stuttgart University, Germany. An elite female athlete, 3rd Dan level, 25 years of practice, volunteers for this study. Six consecutive trials of reverse punch technique (Gyaku Tsuki) was delivered with the right hand, and directed to the chest area (Chudan) of a hypothetical adversary.

The punches have been recorded using the VICON i8 optical motion system, which allows the automatic analysis of the movement for the 3D coordinates of 45 retro-reflexive markers attached to the athlete body, that are detected by 12 synchronized infrared-sensitive cameras MX 13 (sampling rate 120 Hz). During the execution of the movement, specialized software VICON IQ 2.0 recognizes for each camera the 2D image coordinates which are converted to real metric data. A set of 3D Cartesian coordinates for each marker in each frame that constitutes the movement is obtained for all 6 trials. A skeleton model is used to visualize the markers attached to the body and to process and filtered the data (fig.1).

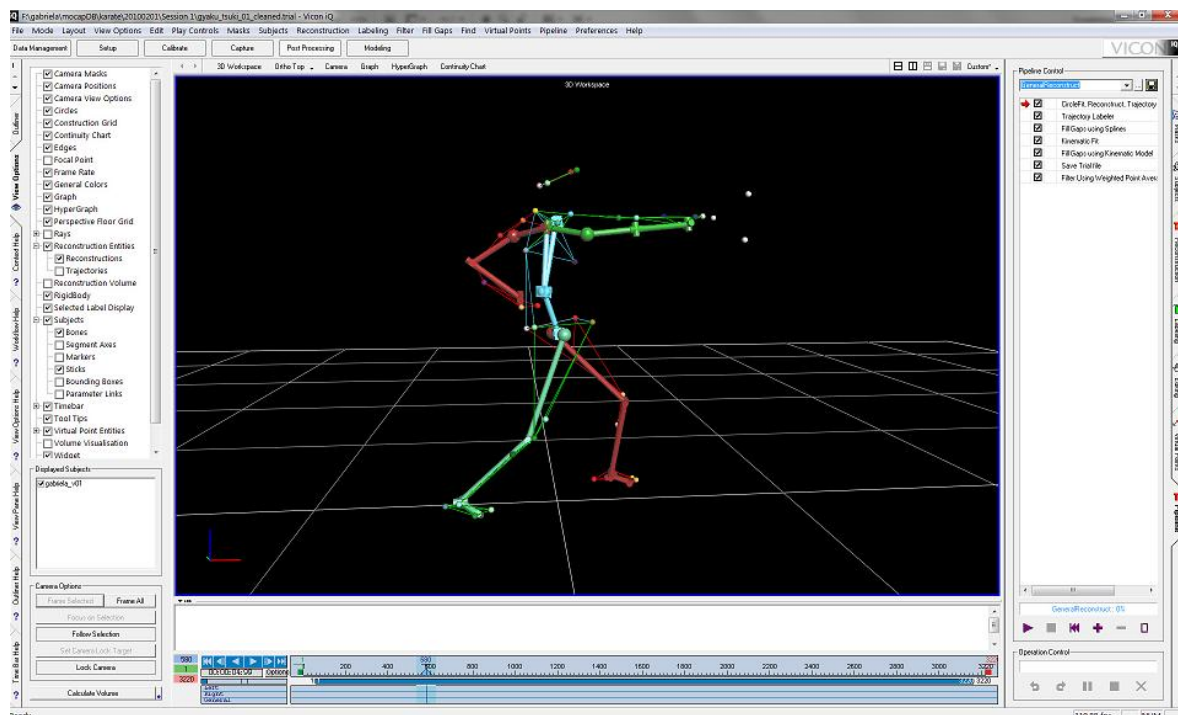


Fig.1. Visualization of reverse punch movement and marker placement in VICON IQ 2.0.

Finally, the data are imported in VICON MOTUS 9.2.0 software to reconstruct the body motion from markers positions. A 15 segment body kinematic model is used to compute the position and orientation of the joints and mass center of segments following the ISB recommendations for standardization in the reporting of kinematic data (Wu and Cavanaugh, 1995). From first derivate of displacement data, the linear velocities of joints are obtained.

Results

Velocity-time curves for the hips, shoulder and wrist of the subject are presented in figures from 2 to 4, for all 6 trials. The analysis is conducted for trial no. 5, which was for interest because of the maximum velocity of wrist joint. The movement starts when the hip begins to move and finishes when the arm is full extended. The total time of trial no.5 was 0.492 s.

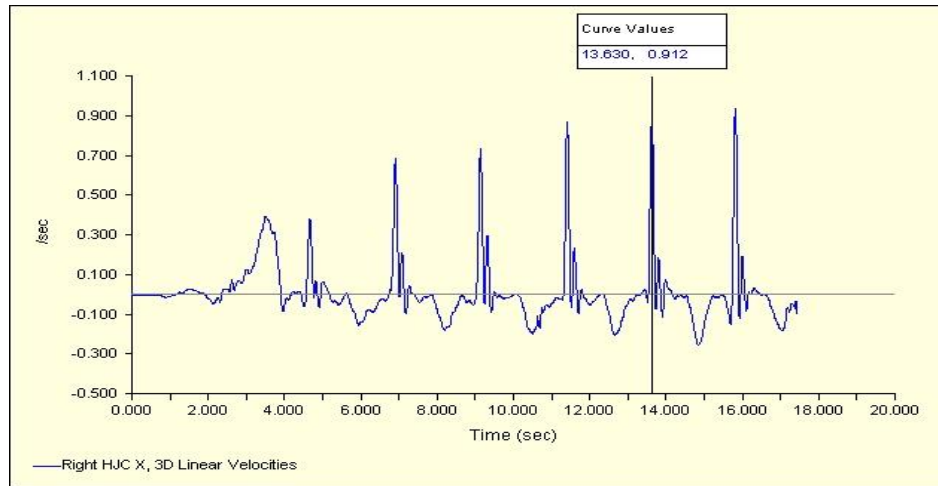


Fig. 2 Time-velocity curve for hip joint

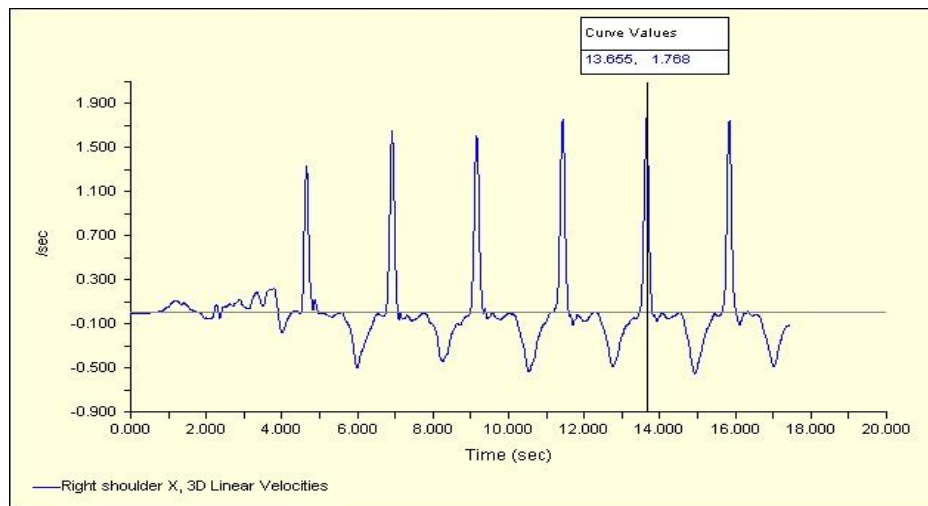


Fig.3. Time-velocity curve for shoulder joint

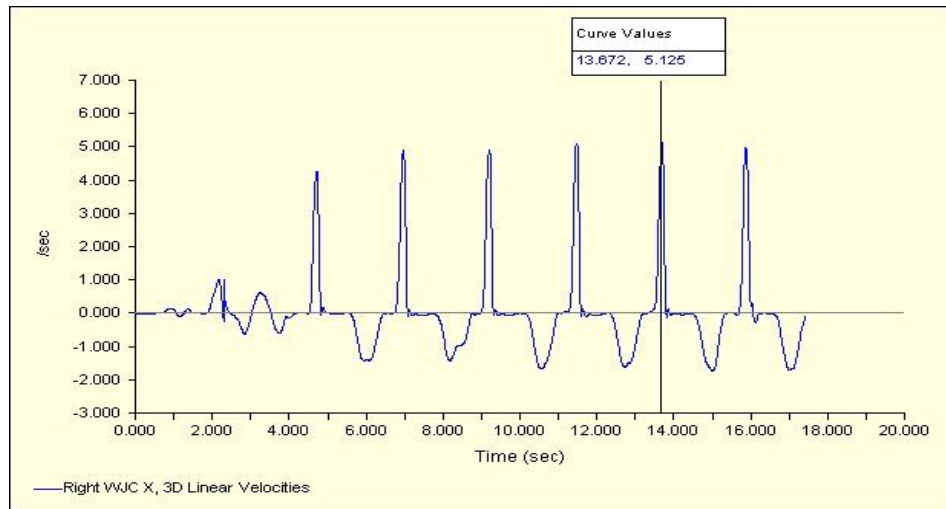


Fig.4. Time -velocity curve for wrist joint

A peak hip velocity was 0.912 m/s and occurred at 42% of total movement time.

Peak shoulder velocity was 1.700 m/s and occurred at 65% of total movement time. Peak wrist velocity was 5.125 m/s and occurred at 73% movement time. The results for all 6 trials are in the limits of the previous studies (Suwarganda et al., 2009), where peak velocity of hip occurred between 35 % and 75% of total movement time, peak velocity of shoulder occurred between 53% and 84% of total movement time and peak velocity of wrist occurred at 70% and 95% movement time.

Conclusion

The results of this analysis are similar to those found in previous researches and indicate that the karate reverse punch Gyaku-Tsuki is highly specialized technique which follows the standard movement model of kinetic link principle. The joints action is occurred in a sequential sequence order, where the peak velocity of proximal joint precedes the peak velocity of distal joint.

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Analiza cinematica liniara a tehnicii de karate gyaku –tsuki

Rezumat: Tehnicile de karate sunt miscari sportive specializate care urmaresc producerea de viteze maxime in segmentele care lovesc intr-o tinta vizata. Pentru maximizarea vitezei, actiunea articulatiilor implicate in miscare trebuie sa fie coordonata si realizata cu un timing corespunzator, respectiv intr-o ordine secventiala proximal-distala. In prezentul studiu se analizeaza lovitura de karate cu pumnul Gyaku-Tsuki executata de o sportiva de performanta care executa 6 repetari consecutive ale tehnicii. Miscarea este captata si analizata cu sistemul integrat VICON. Sunt calculate si comparate vitezele articulatiilor soldului, umarului si pumnului.

Cuvinte cheie: lovitura Gyaku-Tsuki, vitezele articulatiilor, modelul de distributie a pozitiiilor.

Analyse linéaire de la cinématique de karate coup gyaku tsuki

Résumé: Les techniques de karaté sont spécialisés mouvements sportifs visant à produire la vitesse maximale dans un segment qui a frappé la cible. Pour maximiser la vitesse, l'action impliqués dans la mobilité des articulations doivent être coordonnées et menées avec un bon timing, c'est à dire dans un ordre séquentiel proximale-distale. Dans cette étude, on analyse le karaté kick Gyaku-Tsuki exécuté par un athlète à courir six répétitions consécutives de la technique spécifique. Le mouvement est capturé et analysé avec le système Vicon intégrée. Les vitesses sont calculées et comparées aux articulations de la hanche, l'épaule et du poignet.

Mots clés: Gyaku-Tsuki, vitesses articulaires, le mode de répartition des postes.